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← **STEDMAN'S** *The Best Words in Medicine.™*

Stedman's Dictionary

Define:

Search

Stedman's Medical Dictionary 27th Edition

teichoic acids (ti-ko'ik)

One of two classes (the other being the muramic acids or mucopeptides) of polymers constituting the cell walls of Gram-positive bacteria, but also found intracellularly; linear polymers of a polyol (ribitol phosphate or glycerol phosphate) carrying d1-alanyl residues esterified to OH groups and glycosidically linked sugars.

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WEST Search History

DATE: Tuesday, September 23, 2003

Set Name Query

side by side

Hit Count Set Name

result set

DB=PGPB; PLUR=YES; OP=AND

L1	2001955585	0	L1
L2	fattom.in. and naso.in. and staphylococcus	4	L2
L3	L2 and fucosamine	0	L3

DB=USPT; PLUR=YES; OP=AND

L4	fattom.in. and naso.in. and staphylococcus	3	L4
L5	L4 and fucosamine	0	L5
L6	L4 and \$mannuronic	0	L6
L7	fucose near25 (hexose or hexosamine)	109	L7
L8	L7 and staphyloc\$	13	L8

END OF SEARCH HISTORY

WEST Search History

DATE: Tuesday, September 23, 2003

Set Name Query

side by side

Hit Count Set Name

result set

DB=PGPB; PLUR=YES; OP=AND

L1	2001955585	0	L1
----	------------	---	----

L2	fattom.in. and naso.in. and staphylococcus	4	L2
----	--------------------------------------------	---	----

L3	L2 and fucosamine	0	L3
----	-------------------	---	----

DB=USPT; PLUR=YES; OP=AND

L4	fattom.in. and naso.in. and staphylococcus	3	L4
----	--------------------------------------------	---	----

L5	L4 and fucosamine	0	L5
----	-------------------	---	----

L6	L4 and \$mannuronic	0	L6
----	---------------------	---	----

END OF SEARCH HISTORY

01512293 73161737 PMID: 4512329

Molecular arrangement of teichoic acid in the cell wall of Staphylococcus lactis.

Archibald A R; Baddiley J; Heckels J E

Nature- New biology (ENGLAND) Jan 3 1973, 241 (105) p29-31, ISSN 0090-0028 Journal Code: 0410463

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Glycosides; *Phosphoric Acids; *Staphylococcus--analysis
--AN; Cell Wall--analysis--AN; Cell Wall--metabolism--ME; **Hexosamines**
--isolation and purification--IP; Models, Structural; Molecular
Conformation; Peptidoglycan; **Teichoic** Acids--isolation and purification
--IP

CAS Registry No.: 0 (Glycosides); 0 (Hexosamines); 0 (Peptidoglycan)
; 0 (Phosphoric Acids); 0 (Teichoic Acids)

Record Date Created: 19730619

Record Date Completed: 19730619

01213095 72065727 PMID: 5001874

Chemical characterization of a new surface antigenic polysaccharide from a mutant of Staphylococcus aureus.

Wu T C; Park J T

Journal of bacteriology (UNITED STATES) Nov 1971, 108 (2) p874-84,
ISSN 0021-9193 Journal Code: 2985120R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Mutation; *Polysaccharides, Bacterial--analysis--AN;
*Staphylococcus--analysis--AN; Agglutination Tests; Amino Sugars--analysis
--AN; Antigens, Bacterial--analysis--AN; Antigens, Bacterial--isolation
and purification--IP; Cell Wall--analysis--AN; Chemistry; Chromatography,
DEAE-Cellulose; Chromatography, Paper; Coliphages; Genetics, Microbial;
Glucosamine--analysis--AN; **Hexosamines** --analysis--AN; Immune Sera;
Immunodiffusion; Immunoelectrophoresis; Indicators and Reagents; Lysogeny;
Phosphorus--analysis--AN; Polymers--analysis--AN; Spectrophotometry;
Staphylococcus--immunology--IM; **Teichoic** Acids--analysis--AN; Uronic
Acids--analysis--AN

CAS Registry No.: 0 (Amino Sugars); 0 (Antigens, Bacterial); 0
(Hexosamines); 0 (Immune Sera); 0 (Indicators and Reagents); 0
(Polymers); 0 (Polysaccharides, Bacterial); 0 (Teichoic Acids); 0
(Uronic Acids); 3416-24-8 (Glucosamine); 7723-14-0 (Phosphorus)

Record Date Created: 19720222

Record Date Completed: 19720222

01939859 75115459 PMID: 804001

Immunochemistry of an acidic antigen isolated from a Staphylococcus aureus.

Karakawa W W; Kane J A

Journal of immunology (Baltimore, Md. - 1950) (UNITED STATES) Jan 1975, 114 (1 Pt 2) p310-5, ISSN 0022-1767 Journal Code: 2985117R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: AIM; INDEX MEDICUS

Staphylococcus aureus, strain 7007, was shown to possess an anti-phagocytic surface antigen. This surface antigen was separated from the species-specific **teichoic** acid by a combination of DEAE-cellulose chromatography and Bio-Gel filtration. Chemical analyses indicated that the 7007 surface antigen consisted of aminomannuronic acid and fucosamine. Immunochemical analyses suggested that this polymer, although consisting of the same components as the staphylococcal T-antigen described by Wu and Park was, in fact, immunologically distinct from the T-antigen. Antibodies directed against the surface antigen were isolated from anti-7007 rabbit serum by affinity chromatography. These antibodies were shown to belong to the IgG class of immunoglobulins and were effective in enhancing in vitro phagocytosis of 7007 cells by polymorphonuclear leukocytes.

Tags: Animal; Support, U.S. Gov't, P.H.S.

Descriptors: *Antigens, Bacterial; *Staphylococcus--immunology--IM; Acids ; Amino Acids--analysis--AN; Antigens, Bacterial --isolation and purification--IP; Borohydrides; Chromatography, DEAE-Cellulose; Chromatography, Gas; Chromatography, Gel; **Hexosamines** --analysis--AN; Hexoses--analysis--AN; Immune Sera; Immunochemistry; Immunodiffusion; Leukocytes--immunology--IM; Mannose--analysis--AN; Mice; Oligosaccharides --isolation and purification--IP; Phagocytosis; Phosphorus--analysis--AN; Polysaccharides, Bacterial--analysis--AN; Uronic Acids--analysis--AN

CAS Registry No.: 0 (Acids); 0 (Amino Acids); 0 (Antigens, Bacterial); 0 (Borohydrides); 0 (Hexosamines); 0 (Hexoses); 0 (Immune Sera); 0 (Oligosaccharides); 0 (Polysaccharides, Bacterial); 0 (Uronic Acids); 31103-86-3 (Mannose); 7723-14-0 (Phosphorus)

Record Date Created: 19750609

Record Date Completed: 19750609

WEST

Generate Collection

Print

L8: Entry 1 of 13

File: USPT

Jan 25, 2000

DOCUMENT-IDENTIFIER: US 6017906 A

TITLE: Polyamine conjugates for treatment of infection

Detailed Description Text (6):

As stated above, the group R.sub.5 can be a protected or unprotected glycosyl moiety, which, in turn, may comprise 1-10 monosaccharide units (e.g., a monosaccharide, a disaccharide, a trisaccharide, etc.). In the present case, the term "monosaccharide" is any sugar residue or derivative thereof. The monosaccharide may, for example, be a hexose (e.g., D-allose, L-allose, D-altrose, L-altrose, D-fucose, L-fucose, D-glucose, L-glucose, D-mannose, L-mannose, D-gulose, L-gulose, D-idose, L-idose, D-galactose, L-galactose, D-rhamnose, L-rhamnose, D-talose, L-talose, and the like, or any deoxy form thereof, e.g., a 2-deoxyhexose, or any amino-substituted derivative thereof, e.g., an aminosugar, such as D-glucosamine, L-glucosamine, D-galactosamine, L-galactosamine, etc.). Puranoses, deoxyfuranoses, amino-substituted furanoses, and the like are also suitable, such as D-ribose, L-ribose, D-arabinose, L-arabinose, D-xylose, L-xylose, D-lyxose, L-lyxose, etc.

Detailed Description Text (52):

The anti-infective compounds provide action against specific organisms susceptible to them. Examples of microorganisms that the compounds represented by formula (I) are believed to be active against include, but are not limited to alpha-streptococci, beta-streptococci, Diplococcus pneumoniae, Staphylococcus species, Bacillus anthracis, clostridia spp., Corynebacterium xerose, Haemophilus ducreyi, Haemophilus influenzae, Escherichia coli, Klebsiella-Enterococcus species, Neisseria species, Proteus mirabilis, Salmonella typhosa, Pseudomonas aeruginosa, Histoplasma capsulatum, Coccidioides immitis, Candida species, Blastomyces dermatitidis, Rhondotorula, Cryptococcus neoformans, Sporothrix schenckii, Mucor mucedo and Aspergillus fumigatus.

Detailed Description Text (175):

The biological activity of the present compounds is demonstrated as follows. To demonstrate their anti-infective properties, the minimum inhibitory concentration (MIC) for many of the novel compounds is obtained against a variety of antibiotic indicator strains of bacteria. Antibiotic indicator strains Escherichia coli strain 25922, Enterococcus faecalis 29212, Pseudomonas aeruginosa 27853, and Staphylococcus aureus 29213 are obtained from the American Type Tissue Culture Collection (ATCC) in Rockville, Md. The cystic fibrosis isolate, Pseudomonas aeruginosa 39324, is also obtained from ATCC. Bacteria are routinely cultivated in cation-supplemented Mueller-Hinton broth (CAMHB) or agar at 37.degree. C.

CLAIMS:

6. The method of claim 3 in which said microorganism is selected from the group consisting of

alpha-streptococci, beta-streptococci, *Diplococcus pneumoniae*, *Staphylococcus* species, *Bacillus anthracis*, *Clostridia* spp., *Corynebacterium xerose*, *Haemophilus ducreyi*, *Haemophilus influenzae*, *Escherichia coli*, *Klebsiella-Enterococcus* species, *Neisseria* species, *Proteus mirabilis*, *Salmonella typhosa*, *Pseudomonas aeruginosa*, *Histoplasma capsulatum*, *Coccidioides immitis*, *Candida* species, *Blastomyces dermatitidis*, *Rhizoglyphus*, *Cryptococcus neoformans*, *Sporothrix schenckii*, *Mucor mucedo* and *Aspergillus fumigatus*.

01033560

GLYCOCONJUGATE VACCINES FOR USE IN IMMUNE-COMPROMISED POPULATIONS
VACCINS GLYCOCONJUGUES DESTINES A ETRE ADMINISTRES A DES POPULATIONS
IMMUNOCOMPROMISES

Patent Applicant/Assignee:

NABI, 12280 Wilkins Avenue, Rockville, MD 20852, US, US (Residence), US
(Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

FATTOM Ali I, 1710 Lorre Drive, Rockville, MD 20852, US, US (Residence),
IL (Nationality), (Designated only for: US)

NASO Robert B, 8630 Lochaven Drive, Gaithersburg, MD 20882, US, US
(Residence), US (Nationality), (Designated only for: US)

Legal Representative:

BENT Stephen A (et al) (agent), Foley & Lardner, Washington Harbour, 3000
K Street, N.W., Suite 500, Washington, DC 20007-5143, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200361558 A2-A3 20030731 (WO 0361558)

Application: WO 2002US29601 20020919 (PCT/WO US0229601)

Priority Application: US 2001955585 20010919

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO
RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 8955

Fulltext Availability:

Claims

Claim

... comprises P-linked hexosamine, contains no O-acetyl groups, and
specifically binds with antibodies to **Staphylococcus aureus** Type 336
deposited under ATCC 55804.

24

. A method according to claim 4, wherein...

...to ATCC 55254.

7 A method according to claim 1, wherein said vaccine comprises a
Staphylococcal glycopeptide antigen that comprises amino acids and a
N-acetylated **hexosamine** in an a configuration, that contains no
O-acetyl groups and that contains no hexose...antigen.

12 A method according to claim 1, wherein said bacterial surface antigen
is a **teichoic**
acid antigen

13 A method according to claim 1, wherein said bacterial surface antigen
is...

00389973

IMMUNOMODULATORY COMPLEX AND USE THEREOF IN HELICOBACTER DISEASES
COMPLEXE IMMUNOMODULATEUR ET SON UTILISATION DANS LES AFFECTIONS PAR
HELICOBACTER

Patent Applicant/Assignee:

TOROSSIAN Fernand Narbey;

Inventor(s):

TOROSSIAN Fernand Narbey,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9730716 A1 19970828

Application: WO 97FR334 19970225 (PCT/WO FR9700334)

Priority Application: FR 962445 19960226

Designated States: AU CA CN JP MX US AT BE CH DE DK ES FI FR GB GR IE IT LU
MC NL PT SE

Publication Language: French

Fulltext Word Count: 4710

Fulltext Availability:

Detailed Description

Detailed Description

... and Immun.. 1979, 24 (3), 685-96).

4 - Pour les acides teichoIques et lipoteichoIques
Streptocoques, **staphylocoques**, et lactobacilles (la surface des
bactEries gram-positives est faite d'acide **teichoIque**, qui est un
polymEre du glycErol. liE par des ponts phosphodiesters).

Les articles suivants dEcrivent les procEdEs d'obtention

- M.M. BURGER (1966) - **TeichoIc** acids: antigenic determinants,
chain. separation. and theIr location in the cell wall (Microbiology 56,
91017).

- K.W. KNOX (1973) - Immunological properties of **teichoIc** acids
(Bacteriol. Reviews, 37, 21, 215-57).

- G.A. MILLER (1976) - Effects of streptococcal **lipoteichoIc** acid on
host response in mice (Infect. and Immun.. 1976, 13. (5), 1408-17).

- A.J. WICKEN et coll. (1975) - **LipoteichoIc** acids: a new class of
bacterial antigens (Science, 187, 1161-67).

DiffErents dosages possibles

A...

...Hexoses

' T.A. SCOEIT - Dosage colorimEtr. A l'anthrone (Anal. Chem. (1953),
25, 1956-61).

Hexosamines

1 LA ELSON (Biochem. J (1953), 27, 1824-28).

is Lipopolysaccharides

* J. JANDA et E...

WEST[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 1 of 1 returned.**☐ 1. Document ID: US 5770208 A

L1: Entry 1 of 1

File: USPT

Jun 23, 1998

DOCUMENT-IDENTIFIER: US 5770208 A

TITLE: Staphylococcus aureus B-linked hexosamine antigen

US Patent No. (1):
5770208Detailed Description Text (51):

The mobility of purified antigen in immunoelectrophoresis (IEF) indicates the presence of negatively-charged groups. The purified antigen does not contain neutral sugars as detected by the phenol sulfuric assay. The K.sub.d of purified antigen was 0.3 on Superose 12 HR column, which is a smaller molecular size material in comparison with Type 5 (K.sub.d of 0.017), Type 8 (K.sub.d of 0.061) and teichoic acid (K.sub.d of 0.18).

Other Reference Publication (6):

Davison et al., "Teichoic Acids in the Walls of Staphylococci: Serological Investigation on Teichoic Acids from the Walls of Staphylococci" Nature, vol. 202, May 30, 1964, pp. 872-874.

Other Reference Publication (7):

Endl et al., "Chemical Composition and Structure of Cell Wall Teichoic Acids of Staphylococci" Archives of Microbiology, 135:215-223, 1983.

Other Reference Publication (8):

Rajbhandary et al., "The Intracellular Teichoic Acid from Staphylococcus aureus H" Biochem J. 87:429-435 (1963).

Full	Title					CLS.1			DEF.1			SEQ.1			ATT.1			

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Terms	Documents
5,770,208.pn. and (teich\$ or \$teichoic)	1

Display Format:

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Change Format

[Previous Page](#)[Next Page](#)

01050548 BIOSIS NO.: 000009030758

INDUCTION OF KIDNEY DISEASE IN RABBITS BY ANTI TEICHOIC -ACID ANTIBODIES

AUTHOR: FIEDEL B A; JACKSON R W

JOURNAL: ABSTR ANNU MEET AM SOC MICROBIOL 72. 1972 104 1972

FULL JOURNAL NAME: Abstracts of the Annual Meeting of the American Society for Microbiology

CODEN: ASMAC

DOCUMENT TYPE: Meeting

RECORD TYPE: Citation

DESCRIPTORS: ABSTRACT STREPTOCOCCUS-PYOGENES BOVINE SERUM ALBUMIN

CONCEPT CODES:

- 15506 Urinary System and External Secretions-Pathology
- 31000 Physiology and Biochemistry of Bacteria
- 34504 Immunology and Immunochemistry-Bacterial, Viral and Fungal
- 34508 Immunology and Immunochemistry-Immunopathology, Tissue Immunology
- 36002 Medical and Clinical Microbiology-Bacteriology
- 10064 Biochemical Studies-Proteins, Peptides and Amino Acids
- 10068 Biochemical Studies-Carbohydrates

BIOSYSTEMATIC CODES:

- 07200 Eubacteriales (1969-78)
- 85715 Bovidae
- 86040 Leporidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

- Microorganisms
- Bacteria
- Animals
- Chordates
- Vertebrates
- Nonhuman Vertebrates
- Mammals
- Nonhuman Mammals
- Artiodactyls
- Lagomorphs

03165443 EMBASE No: 1986143020

Antibodies to lipoteichoic acid from Staphylococcus aureus. Specificity of murine monoclonal and human antibodies

Aasjord P.; Haaheim L.R.

Department of Microbiology and Immunology, The Gade Institute, University of Bergen, N-5016 Haukeland Sykehus Norway

Acta Pathologica Microbiologica et Immunologica Scandinavica - Section C Immunology (ACTA PATHOL. MICROBIOL. IMMUNOL. SCAND. SECT. C IMMUNOL.) (Denmark) 1985, 93/6 (245-250)

CODEN: APMID

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH

Two monoclonal antibodies against staphylococcal lipoteichoic acid (LTA) were made by fusing P3X63Ag8 myeloma cells and splenocytes from mice immunized with purified LTA. Both were isotyped as being IgM kappa. Their specificities were determined by enzyme-linked immunosorbent assays indicating that both antibodies reacted with the glycerol-phosphate backbone, while one of them also had some affinity for the alanyl substituent. Antibodies in serum from 7 multiple sclerosis (MS) patients and serum and cerebrospinal fluid (CSF) from 7 non-MS patients apparently reacted with the sugar moiety of LTA. In contrast, CSF antibodies from 6 of the 7 MS patients and 1 of the 7 non-MS patients had affinity for the alanine residue. This non-MS patient also had serum antibodies against the alanine residue. None of the other sera tested appeared to contain such antibodies.

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04569158 84212328 PMID: 6427197

N-acetylmannosaminyl(1----4)N-acetylglucosamine, a linkage unit between glycerol teichoic acid and peptidoglycan in cell walls of several Bacillus strains.

Kaya S; Yokoyama K; Araki Y; Ito E

Journal of bacteriology (UNITED STATES) Jun 1984, 158 (3) p990-6,
ISSN 0021-9193 Journal Code: 2985120R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

The structure of teichoic acid-glycopeptide complexes isolated from lysozyme digests of cell walls of *Bacillus subtilis* (four strains) and *Bacillus licheniformis* (one strain) was studied to obtain information on the structural relationship between glycerol teichoic acids and their linkage saccharides. Each preparation of the complexes contained equimolar amounts of muramic acid 6-phosphate and mannosamine in addition to glycopeptide components and glycerol teichoic acid components characteristic of the strain. Upon treatment with 47% hydrogen fluoride, these preparations gave, in common, a hexosamine-containing disaccharide, which was identified as N-acetylmannosaminyl (1----4) N-acetylglucosamine, along with large amounts of glycosylglycerols presumed to be the dephosphorylated repeating units of teichoic acid chains. The glycosylglycerol obtained from each bacterial strain was identified as follows: *B. subtilis* AHU 1392, glucosyl alpha (1----2)glycerol; *B. subtilis* AHU 1235, glucosyl beta(1----2) glycerol; *B. subtilis* AHU 1035 and AHU 1037, glucosyl alpha (1----6)galactosyl alpha (1----1 or 3)glycerol; *B. licheniformis* AHU 1371, galactosyl alpha (1----2)glycerol. By means of Smith degradation, the galactose residues in the teichoic acid-glycopeptide complexes from *B. subtilis* AHU 1035 and AHU 1037 and *B. licheniformis* AHU 1371 were shown to be involved in the backbone chains of the teichoic acid moieties. Thus, the glycerol teichoic acids in the cell walls of five bacterial strains seem to be joined to peptidoglycan through a common linkage disaccharide, N-acetylmannosaminyl (1----4)N-acetylglucosamine, irrespective of the structural diversity in the glycosidic branches and backbone chains.

Tags: Comparative Study

Descriptors: Acetylglucosamine--analysis--AN; **Bacillus*--analysis--AN; **Bacillus subtilis*--analysis--AN; *Cell Wall--analysis--AN; *Disaccharides--analysis--AN; *Glucosamine--analogs and derivatives--AA; *Hexosamines--analysis--AN; *Peptidoglycan--analysis--AN; *Teichoic Acids--analysis--AN; Carbohydrate Conformation; Carbohydrate Sequence; Chemistry; Methylation; Species Specificity

CAS Registry No.: 0 (Disaccharides); 0 (Hexosamines); 0 (N-acetylmannosaminyl(1-4)N-acetylglucosamine); 0 (Peptidoglycan); 0 (Teichoic Acids); 3416-24-8 (Glucosamine); 4773-29-9 (N-acetylmannosamine); 7512-17-6 (Acetylglucosamine)

Record Date Created: 19840713

Record Date Completed: 19840713

4/9/2

DIALOG(R) File 155:MEDLINE(R)

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02013459 75189374 PMID: 237892

Coordinated incorporation of nascent peptidoglycan and teichoic acid into pneumococcal cell walls and conservation of peptidoglycan during growth.

Tomasz A; McDonnell M; Westphal M; Zanati E

Journal of biological chemistry (UNITED STATES) Jan 10 1975, 250 (1) p337-41, ISSN 0021-9258 Journal Code: 2985121R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Choline-containing pneumococcal cell walls are sensitive to autolysin, whereas ethanolamine-containing walls are not. Bacteria were labeled with radioactive peptidoglycan precursors while growing either in choline- or in ethanolamine-containing media. Subsequently, the labeled cells were allowed to grow for four to five generations in nonradioactive medium supplemented with the alternative amino alcohol source (i.e. cells labeled in choline medium yields ethanolamine; cells labeled in ethanolamine medium yields choline). The autolysin sensitivity of the isotope label in cell walls prepared from such bacteria indicates that nascent peptidoglycan and teichoic acid units that are synthesized at the same time are attached to one another, incorporated into the cell surface at the cellular equator, and remain conserved during growth the division of the bacteria.

Tags: Comparative Study; Support, U.S. Gov't, P.H.S.

Descriptors: *Cell Wall--metabolism--ME; *Peptidoglycan--metabolism--ME; *Streptococcus pneumoniae--metabolism--ME; *Teichoic Acids--metabolism--ME; Alanine--metabolism--ME; Amidohydrolases--metabolism--ME; Amino Acids--analysis--AN; Autoanalysis; Carbon Radioisotopes; Cell Division; Cell Wall--analysis--AN; Cell Wall--ultrastructure--UL; Choline--metabolism--ME; Ethanolamines--metabolism--ME; Glucose--metabolism--ME; Glutamates--metabolism--ME; Hexosamines--analysis--AN; Lysine--metabolism--ME; Microscopy, Electron; Muramic Acids; Streptococcus pneumoniae--analysis--AN; Time Factors; Tritium

CAS Registry No.: 0 (Amino Acids); 0 (Carbon Radioisotopes); 0 (Ethanolamines); 0 (Glutamates); 0 (Hexosamines); 0 (Muramic Acids); 0 (Peptidoglycan); 0 (Teichoic Acids); 10028-17-8 (Tritium); 50-99-7 (Glucose); 56-41-7 (Alanine); 56-87-1 (Lysine); 62-49-7 (Choline)

Enzyme No.: EC 3.5. (Amidohydrolases)

Record Date Created: 19751010

Record Date Completed: 19751010

4/9/3

DIALOG(R) File 155:MEDLINE(R)

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01777908 74262554 PMID: 4209660

Human antibody response to group A streptococcal teichoic acid.

Klesius P H; Zimmerman R A; Mathews J H; Auernheimer A H

Canadian journal of microbiology (CANADA) Jun 1974, 20 (6) p853-9,
ISSN 0008-4166 Journal Code: 0372707

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Tags: Human

Descriptors: *Antibody Formation; *Antigens, Bacterial; *Streptococcus--immunology--IM; *Teichoic Acids; Adolescent; Adult; Age Factors; Alanine--pharmacology--PD; Antibodies, Bacterial--analysis--AN; Antigens, Bacterial--analysis--AN; Chromatography, Thin Layer; Erythrocytes--immunology--IM; Glycerol--analysis--AN; Glycerophosphates--pharmacology--PD; Glycosides--pharmacology--PD; Hemagglutination Inhibition Tests; Hemagglutination Tests; Hexosamines--pharmacology--PD; Immunodiffusion; Mercaptoethanol--pharmacology--PD; Ribose--pharmacology--PD; Serotyping; Stereoisomerism; Teichoic Acids--analysis--AN

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Antigens, Bacterial); 0 (Glycerophosphates); 0 (Glycosides); 0 (Hexosamines); 0 (Teichoic Acids); 50-69-1 (Ribose); 56-41-7 (Alanine); 56-81-5 (Glycerol); 60-24-2 (Mercaptoethanol)

Record Date Created: 19740828

Record Date Completed: 19740828

4/9/4

DIALOG(R) File 155:MEDLINE(R)

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01655123 74060510 PMID: 4202956

Quantitative chemical composition of peptidoglycan of Listeria

monocytogenes.

Srivastava K K; Siddique I H
Infection and immunity (UNITED STATES) May 1973, 7 (5) p700-3,
ISSN 0019-9567 Journal Code: 0246127
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS
Descriptors: *Peptidoglycan--analysis--AN; Amino Acids--analysis--AN;
Autoanalysis; Bacterial Proteins--analysis--AN; Cell Wall--analysis--AN;
Glucosamine--analysis--AN; Hexosamines--analysis--AN; Hexoses--analysis--AN
; Listeria monocytogenes--analysis--AN; Microscopy, Electron; Muramic Acids
--analysis--AN; Peptidoglycan--isolation and purification--IP; Phosphorus
--analysis--AN; Pronase; Rhamnose--analysis--AN; Sodium Dodecyl Sulfate;
Teichoic Acids--analysis--AN
CAS Registry No.: 0 (Amino Acids); 0 (Bacterial Proteins); 0
(Hexosamines); 0 (Hexoses); 0 (Muramic Acids); 0 (Peptidoglycan); 0
(Teichoic Acids); 10485-94-6 (Rhamnose); 151-21-3 (Sodium Dodecyl
Sulfate); 3416-24-8 (Glucosamine); 7723-14-0 (Phosphorus)
Enzyme No.: EC 3.4.24.- (Pronase)
Record Date Created: 19740222
Record Date Completed: 19740222

4/9/5

DIALOG(R)File 155:MEDLINE(R)

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01582427 73236642 PMID: 4199049

Isolation of the teichoic acid of Bacillus subtilis 168 by affinity chromatography.

Doyle R J; Birdsell D C; Young F E
Preparative biochemistry (UNITED STATES) 1973, 3 (1) p13-8, ISSN
0032-7484 Journal Code: 1276634
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

Descriptors: *Bacillus subtilis--analysis--AN; *Glycosides--isolation and
purification--IP; *Phosphoric Acids--isolation and purification--IP;
Alanine--analysis--AN; Bacillus subtilis--cytology--CY; Cell Wall--analysis
--AN; Chromatography, Affinity; Concanavalin A; Cyanogen Bromide;
Dicarboxylic Acids--analysis--AN; Evaluation Studies; Glucose--analysis--AN
; **Hexosamines** --analysis--AN; Muramic Acids--analysis--AN; Phosphorus
--analysis--AN; Polysaccharides; **Teichoic** Acids--analysis--AN; Teichoic
Acids--isolation and purification--IP; Temperature; Trichloroacetic Acid
CAS Registry No.: 0 (Dicarboxylic Acids); 0 (Glycosides); 0
(Hexosamines); 0 (Muramic Acids); 0 (Phosphoric Acids); 0
(Polysaccharides); 0 (Teichoic Acids); 11028-71-0 (Concanavalin A);
50-99-7 (Glucose); 506-68-3 (Cyanogen Bromide); 56-41-7 (Alanine);
76-03-9 (Trichloroacetic Acid); 7723-14-0 (Phosphorus)

Record Date Created: 19731014

Record Date Completed: 19731014

4/9/6

DIALOG(R)File 155:MEDLINE(R)

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01512293 73161737 PMID: 4512329

Molecular arrangement of teichoic acid in the cell wall of Staphylococcus lactis.

Archibald A R; Baddiley J; Heckels J E
Nature- New biology (ENGLAND) Jan 3 1973, 241 (105) p29-31, ISSN
0090-0028 Journal Code: 0410463
Document type: Journal Article
Languages: ENGLISH

Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS
Descriptors: *Glycosides; *Phosphoric Acids; *Staphylococcus--analysis
--AN; Cell Wall--analysis--AN; Cell Wall--metabolism--ME; **Hexosamines**
--isolation and purification--IP; Models, Structural; Molecular
Conformation; Peptidoglycan; **Teichoic** Acids--isolation and purification
--IP
CAS Registry No.: 0 (Glycosides); 0 (Hexosamines); 0 (Peptidoglycan)
; 0 (Phosphoric Acids); 0 (Teichoic Acids)
Record Date Created: 19730619
Record Date Completed: 19730619

4/9/7

DIALOG(R) File 155:MEDLINE(R)

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01213095 72065727 PMID: 5001874

**Chemical characterization of a new surface antigenic polysaccharide from
a mutant of Staphylococcus aureus.**

Wu T C; Park J T

Journal of bacteriology (UNITED STATES) Nov 1971, 108 (2) p874-84,
ISSN 0021-9193 Journal Code: 2985120R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Mutation; *Polysaccharides, Bacterial--analysis--AN;
*Staphylococcus--analysis--AN; Agglutination Tests; Amino Sugars--analysis
--AN; Antigens, Bacterial--analysis--AN; Antigens, Bacterial--isolation
and purification--IP; Cell Wall--analysis--AN; Chemistry; Chromatography,
DEAE-Cellulose; Chromatography, Paper; Coliphages; Genetics, Microbial;
Glucosamine--analysis--AN; Hexosamines--analysis--AN; Immune Sera;
Immunodiffusion; Immunoelectrophoresis; Indicators and Reagents; Lysogeny;
Phosphorus--analysis--AN; Polymers--analysis--AN; Spectrophotometry;
Staphylococcus--immunology--IM; Teichoic Acids--analysis--AN; Uronic Acids
--analysis--AN

CAS Registry No.: 0 (Amino Sugars); 0 (Antigens, Bacterial); 0
(Hexosamines); 0 (Immune Sera); 0 (Indicators and Reagents); 0
(Polymers); 0 (Polysaccharides, Bacterial); 0 (Teichoic Acids); 0
(Uronic Acids); 3416-24-8 (Glucosamine); 7723-14-0 (Phosphorus)

Record Date Created: 19720222

Record Date Completed: 19720222

?logoff hold

le 155:MEDLINE(R) 1966-2003/Sep W2

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*File 155: Medline has been reloaded and accession numbers have changed. Please see HELP NEWS 155.

Set Items Description

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Cost is in DialUnits

?ds

Set Items Description

S1 5410 HEXOSAMINE?

S2 1856 TEICHOIC? OR LIPOTEICHO?

S3 21 S1 AND S2

?s s1 (10n) s2

5410 S1

1856 S2

S4 7 S1 (10N) S2

?s s4 not s3

7 S4

21 S3

S5 0 S4 NOT S3

?t s4/9/all

3/9/1

DIALOG(R) File 155:MEDLINE(R)

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07960362 94025913 PMID: 8212846

Assessment of non-protein impurities in potential vaccine proteins produced by *Bacillus subtilis*.

Himanen J P; Sarvas M; Helander I M

Department of Molecular Bacteriology, National Public Health Institute, Helsinki, Finland.

Vaccine (ENGLAND) 1993, 11 (9) p970-3, ISSN 0264-410X

Journal Code: 8406899

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

The levels of non-protein impurities at different stages of purification of model vaccine proteins produced by *Bacillus subtilis* were assessed with special emphasis on peptidoglycan-wall **teichoic** acid and **lipoteichoic** acid. Intracytoplasmically produced proteins were purified by disrupting the lysozyme protoplasts using osmotic shock, depositing the inclusion bodies by low-speed centrifugation, and washing them with detergent. By this procedure most of the cell envelope-derived impurities could be removed. The final product contained less than 1% (w/w) of neutral sugars, fatty acids, phosphate, **hexosamine**, diaminopimelic acid and glycerol. A secreted protein was purified from the culture supernatant by successive ion-exchange and adsorption chromatography. The cell envelope-derived impurities were efficiently removed by the cation-exchanger, and the final product contained only minute amounts of non-protein components. The amounts of non-protein components such as peptidoglycan and **lipoteichoic** acid in proteins produced in either mode were shown to be negligible in relation to their potentially harmful biological effects.

Tags: Comparative Study; Human; Support, Non-U.S. Gov't

Descriptors: *Bacillus subtilis*--metabolism--ME; *Bacterial Outer Membrane Proteins--isolation and purification--IP; *Lipopolysaccharides--analysis--AN; *Recombinant Fusion Proteins--isolation and purification--IP; ***Teichoic** Acids--analysis--AN; *Vaccines, Synthetic--analysis--AN; *Virulence Factors, *Bordetella*--isolation and purification--IP; Carbohydrates--analysis--AN; Cell Fractionation--methods--MT; Chromatography--methods--MT; Detergents; Drug Contamination; Fatty Acids--analysis--AN; Phosphates--analysis--AN; Recombinant Fusion Proteins--immunology--IM; Vaccines, Synthetic--isolation and purification--IP

CAS Registry No.: 0 (Bacterial Outer Membrane Proteins); 0 (Carbohydrates); 0 (Detergents); 0 (Fatty Acids); 0 (Lipopolysaccharides); 0 (Phosphates); 0 (Recombinant Fusion Proteins); 0 (Teichoic Acids); 0 (Vaccines, Synthetic); 0 (Virulence Factors, *Bordetella*); 0 (pertussis toxin, S1 subunit); 0 (pertussis toxin, S4 subunit); 56411-57-5 (lipoteichoic acid)

Record Date Created: 19931026

Record Date Completed: 19931026

3/9/2

DIALOG(R) File 155:MEDLINE(R)

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04982011 85289089 PMID: 4030716

A common linkage saccharide unit between teichoic acids and peptidoglycan in cell walls of *Bacillus coagulans*.

Kojima N; Uchikawa K; Araki Y; Ito E

Journal of biochemistry (JAPAN) Apr 1985, 97 (4) p1085-92, ISSN 0021-924X Journal Code: 0376600

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Teichoic acid-glycopeptide complexes were isolated from lysozyme

digests of the cell walls of *Bacillus coagulans* AHU 1631, AHU 1634, and AHU 1638, and the structure of the **teichoic** acid moieties and their linkage regions was studied. On treatment with hydrogen fluoride, each of the complexes gave a **hexosamine**-containing disaccharide, which was identified to be glucosyl(beta 1----4)N-acetylglucosamine, in addition to dephosphorylated repeating units of the **teichoic** acids, namely, galactosyl(alpha 1----2)glycerol and either galactosyl(alpha 1----2)[glucosyl(alpha 1----1/3)]glycerol (AHU 1638) or galactosyl(alpha 1----2)[glucosyl(beta 1----1/3)]glycerol (AHU 1631 and AHU 1634). From the results of Smith degradation, methylation analysis, and partial acid hydrolysis, the **teichoic** acids from these strains seem to have the same backbone chains composed of galactosyl(alpha 1----2)glycerol phosphate units joined by phosphodiester bonds at C-6 of the galactose residues. The presence of the disaccharide, glucosyl(beta 1----4)N-acetylglucosamine, in the linkage regions between **teichoic** acids and peptidoglycan was confirmed by the isolation of a disaccharide-linked glycopeptide fragment from each complex after treatment with mild alkali and of a **teichoic** acid-linked saccharide from each cell wall preparation after treatment with mild acid. Thus, it is concluded that despite structural differences in the glycosidic branches, the **teichoic** acids in the cell walls of the three strains are linked to peptidoglycan through a common linkage saccharide, glucosyl (beta 1----4) N-acetylglucosamine.

Tags: Support, Non-U.S. Gov't

Descriptors: *Bacillus*--ultrastructure--UL; *Cell Wall--ultrastructure--UL; *Peptidoglycan; * **Teichoic** Acids; Glycopeptides--analysis--AN

CAS Registry No.: 0 (Glycopeptides); 0 (Peptidoglycan); 0 (Teichoic Acids)

Record Date Created: 19851010

Record Date Completed: 19851010

3/9/3

DIALOG(R) File 155:MEDLINE(R)

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04569158 84212328 PMID: 6427197

N-acetylmannosaminyl(1----4)N-acetylglucosamine, a linkage unit between glycerol teichoic acid and peptidoglycan in cell walls of several Bacillus strains.

Kaya S; Yokoyama K; Araki Y; Ito E

Journal of bacteriology (UNITED STATES) Jun 1984, 158 (3) p990-6, ISSN 0021-9193 Journal Code: 2985120R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

The structure of **teichoic** acid-glycopeptide complexes isolated from lysozyme digests of cell walls of *Bacillus subtilis* (four strains) and *Bacillus licheniformis* (one strain) was studied to obtain information on the structural relationship between glycerol **teichoic** acids and their linkage saccharides. Each preparation of the complexes contained equimolar amounts of muramic acid 6-phosphate and mannosamine in addition to glycopeptide components and glycerol **teichoic** acid components characteristic of the strain. Upon treatment with 47% hydrogen fluoride, these preparations gave, in common, a **hexosamine**-containing disaccharide, which was identified as N-acetylmannosaminyl (1----4) N-acetylglucosamine, along with large amounts of glycosylglycerols presumed to be the dephosphorylated repeating units of **teichoic** acid chains. The glycosylglycerol obtained from each bacterial strain was identified as follows: *B. subtilis* AHU 1392, glucosyl alpha (1----2)glycerol; *B. subtilis* AHU 1235, glucosyl beta(1----2) glycerol; *B. subtilis* AHU 1035 and AHU 1037, glucosyl alpha (1----6)galactosyl alpha (1----1 or 3)glycerol; *B. licheniformis* AHU 1371, galactosyl alpha (1----2)glycerol. By means of Smith degradation, the galactose residues in the **teichoic** acid-glycopeptide complexes from *B. subtilis* AHU 1035 and AHU 1037 and *B. licheniformis* AHU 1371 were shown to be involved in the backbone chains of the **teichoic** acid moieties. Thus, the glycerol **teichoic** acids in the cell walls of five bacterial strains seem to be joined to peptidoglycan

through a common linkage disaccharide, N- acetylmannosaminy (1---4)N-acetylglucosamine, irrespective of the structural diversity in the glycosidic branches and backbone chains.

Tags: Comparative Study

Descriptors: Acetylglucosamine--analysis--AN; *Bacillus--analysis--AN; *Bacillus subtilis--analysis--AN; *Cell Wall--analysis--AN; *Disaccharides --analysis--AN; *Glucosamine--analogs and derivatives--AA; * Hexosamines --analysis--AN; *Peptidoglycan--analysis--AN; * Teichoic Acids--analysis --AN; Carbohydrate Conformation; Carbohydrate Sequence; Chemistry; Methylation; Species Specificity

CAS Registry No.: 0 (Disaccharides); 0 (Hexosamines); 0 (N-acetylmannosaminy (1-4)N-acetylglucosamine); 0 (Peptidoglycan); 0 (Teichoic Acids); 3416-24-8 (Glucosamine); 4773-29-9 (N-acetylmannosamine); 7512-17-6 (Acetylglucosamine)

Record Date Created: 19840713

Record Date Completed: 19840713

3/9/4

DIALOG(R) File 155:MEDLINE(R)

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03686979 82098017 PMID: 6798015

Distribution of mannosamine and mannosaminuronic acid among cell walls of Bacillus species.

Yoneyama T; Koike Y; Arakawa H; Yokoyama K; Sasaki Y; Kawamura T; Araki Y ; Ito E; Takao S

Journal of bacteriology (UNITED STATES) Jan 1982, 149 (1) p15-21, ISSN 0021-9193 Journal Code: 2985120R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

The distribution of mannosamine, mannosaminuronic acid, and the enzymes responsible for the formation of these saccharides was studied in nine species (18 strains) of Bacillus. Whereas UDP-N-acetylglucosamine 2-epimerase activity was detected in all of the strains examined, UDP-N-acetylmannosamine dehydrogenase, as well as the activity incorporating N-acetylmannosaminuronic acid residues from UDP-N-acetylmannosaminuronic acid into polymer, was found only in four strains of B. megaterium and one strain each of B. subtilis and B. polymyxa. The cell walls prepared from the six above-named strains were shown to contain mannosaminuronic acid in amounts of 135 to 245 nmol/mg. In contrast, mannosamine had a wide distribution. The cell walls from two strains of B. cereus and one strain each of B. circulans, B. polymyxa, B. sphaericus, and B. cereus subsp. mycoides contained mannosamine in amounts of 370 to 470 nmol/mg. In addition, the cell walls from five strains of B. subtilis, two strains of B. megaterium, and one strain each of B. cereus, B. coagulans, and B. licheniformis also contained this amino sugar in amounts as small as 10 to 35 nmol/mg. On the basis of analytical data, it is suggested that the mannosamine present in small amounts may be a common constituent of linkage units between peptidoglycan and other cell wall components such as glycerol **teichoic acid**.

Descriptors: Bacillus--analysis--AN; * Hexosamines --analysis--AN; *Uronic Acids--analysis--AN; Bacillus--enzymology--EN; Bacillus --ultrastructure--UL; Bacillus megaterium--analysis--AN; Bacillus subtilis --analysis--AN; Carbohydrate Dehydrogenases--metabolism--ME; Carbohydrate Epimerases--metabolism--ME; Cell Wall--analysis--AN; Mannose--analogs and derivatives--AA; Mannose--analysis--AN; Mannose--metabolism--ME; Uridine Diphosphate N-Acetylglucosamine--metabolism--ME

CAS Registry No.: 0 (Hexosamines); 0 (Uronic Acids); 21940-29-4 (mannosaminuronic acid); 2636-92-2 (mannosamine); 31103-86-3 (Mannose) ; 528-04-1 (Uridine Diphosphate N-Acetylglucosamine)

Enzyme No.: EC 1.1. (Carbohydrate Dehydrogenases); EC 1.1.1.- (UDP-N-acetylmannosamine dehydrogenase); EC 5.1.3 (Carbohydrate Epimerases); EC 5.1.3.14 (UDP-N-acetylglucosamine 4-epimerase)

Record Date Created: 19820326

Record Date Completed: 19820326

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DIALOG(R) File 155:MEDLINE(R)

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02367030 77054453 PMID: 62862

Grouping antigens of four Lactobacillus species and their characteristics.

Shimohashi H; Kodaira S; Suegara N

Japanese journal of microbiology (JAPAN) Oct 1976, 20 (5) p405-13,

ISSN 0021-5139 Journal Code: 0376565

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Antigenic analyses of *Lactobacillus bulgaricus*, *Lactobacillus lactis*, *Lactobacillus brevis* and *Lactobacillus buchneri* were carried out by double immunodiffusion in agar. Antigens were extracted from whole cells and cell wall preparations with cold trichloroacetic acid. Most strains of the four species possessed antigen 9 in their cell walls. Another antigen, antigen 10, was found in the cell walls of all the strains of *L. brevis* and *L. buchneri*, and in some strains of *L. lactis*, but not in *L. bulgaricus*. Fractionation of the antigens was attempted using the cell wall extracts of *L. lactis* L-10 with only antigen 9 and of *L. brevis* X-1 with both antigens 9 and 10. The partially purified fractions of antigen 9 and of the complex of antigens 9 and 10 were obtained by zone electrophoresis. However, antigen 10 from the complex could not be separated by the same method or gel filtration on Sephadex G-100 since the two antigens 9 and 10 of the complex always behaved together. The fraction of antigen 9 consisted almost entirely of glycerol and glucose as sugar components, the molar ratio being 2: 1. The complex of antigens 9 and 10 also consisted of the same sugars, and the molar ratio of glycerol: glucose was 4: 1. Inhibition tests indicated that the immunodominant component of antigen 9 was a-methylglucoside (glucose), and most probably the determinant is a glycosylated glycerol **teichoic** acid. It was considered that the determinant of antigen 10 is a glycerol **teichoic** acid although glucosamine and galactosamine inhibited effectively the reaction between antigen 10 and its antibody.

Descriptors: *Antigens, Bacterial--analysis--AN; *Lactobacillus --immunology--IM; Antigens, Bacterial--isolation and purification--IP; Cell Wall--immunology--IM; Epitopes; Galactose--analysis--AN; Glucose--analysis --AN; Glycerol--analysis--AN; **Hexosamines** --analysis--AN; Methylglucosides --immunology--IM; Species Specificity

CAS Registry No.: 0 (Antigens, Bacterial); 0 (Epitopes); 0 (Hexosamines); 0 (Methylglucosides); 26566-61-0 (Galactose); 50-99-7 (Glucose); 56-81-5 (Glycerol)

Record Date Created: 19770129

Record Date Completed: 19770129

3/9/6

DIALOG(R) File 155:MEDLINE(R)

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02231309 76189289 PMID: 1270128

Chemical and biological properties of extracellular slime produced by Staphylococcus aureus grown in high-carbohydrate, high-salt medium.

Brock J H; Reiter B

Infection and immunity (UNITED STATES) Mar 1976, 13 (3) p653-60,

ISSN 0019-9567 Journal Code: 0246127

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Slime material produced by three strains of *Staphylococcus aureus* grown in the high-carbohydrate, high-salt modified 110 medium contained ribitol

teichoic acid and, in two of the three strains, a basic protein reacting with antisera to *S. aureus* whole cells and cell walls. The basic protein differed chemically and serologically from cell wall mucopeptide and protein A. Substances resembling the capsular antigen of the Smith diffuse strain of *S. aureus* were not detected, nor were any other uronic acid-containing components. When cell walls, slime material, and **teichoic** acid were injected intradermally into cows, only cell walls produced a skin reaction.

Tags: Animal; Female

Descriptors: *Antigens, Bacterial--isolation and purification--IP; *Staphylococcus aureus--growth and development--GD; Antigen-Antibody Reactions; Bacterial Proteins--analysis--AN; Cattle; Cell-Free System; Culture Media; **Hexosamines** --analysis--AN; Immunoelectrophoresis; Intradermal Tests; Phosphorus--analysis--AN; Staphylococcus aureus --immunology--IM; Uronic Acids--analysis--AN

CAS Registry No.: 0 (Antigens, Bacterial); 0 (Bacterial Proteins); 0 (Culture Media); 0 (Hexosamines); 0 (Uronic Acids); 7723-14-0 (Phosphorus)

Record Date Created: 19760802

Record Date Completed: 19760802

3/9/7

DIALOG(R) File 155:MEDLINE(R)

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02013459 75189374 PMID: 237892

Coordinated incorporation of nascent peptidoglycan and teichoic acid into pneumococcal cell walls and conservation of peptidoglycan during growth.

Tomasz A; McDonnell M; Westphal M; Zanati E

Journal of biological chemistry (UNITED STATES) Jan 10 1975, 250 (1) p337-41, ISSN 0021-9258 Journal Code: 2985121R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Choline-containing pneumococcal cell walls are sensitive to autolysin, whereas ethanolamine-containing walls are not. Bacteria were labeled with radioactive peptidoglycan precursors while growing either in choline- or in ethanolamine-containing media. Subsequently, the labeled cells were allowed to grow for four to five generations in nonradioactive medium supplemented with the alternative amino alcohol source (i.e. cells labeled in choline medium yields ethanolamine; cells labeled in ethanolamine medium yields choline). The autolysin sensitivity of the isotope label in cell walls prepared from such bacteria indicates that nascent peptidoglycan and **teichoic** acid units that are synthesized at the same time are attached to one another, incorporated into the cell surface at the cellular equator, and remain conserved during growth the division of the bacteria.

Tags: Comparative Study; Support, U.S. Gov't, P.H.S.

Descriptors: Cell Wall--metabolism--ME; *Peptidoglycan--metabolism--ME; *Streptococcus pneumoniae--metabolism--ME; * **Teichoic** Acids--metabolism--ME; Alanine--metabolism--ME; Amidohydrolases--metabolism--ME; Amino Acids --analysis--AN; Autoanalysis; Carbon Radioisotopes; Cell Division; Cell Wall--analysis--AN; Cell Wall--ultrastructure--UL; Choline--metabolism--ME; Ethanolamines--metabolism--ME; Glucose--metabolism--ME; Glutamates --metabolism--ME; **Hexosamines** --analysis--AN; Lysine--metabolism--ME; Microscopy, Electron; Muramic Acids; Streptococcus pneumoniae--analysis--AN; Time Factors; Tritium

CAS Registry No.: 0 (Amino Acids); 0 (Carbon Radioisotopes); 0 (Ethanolamines); 0 (Glutamates); 0 (Hexosamines); 0 (Muramic Acids); 0 (Peptidoglycan); 0 (Teichoic Acids); 10028-17-8 (Tritium); 50-99-7 (Glucose); 56-41-7 (Alanine); 56-87-1 (Lysine); 62-49-7 (Choline)

Enzyme No.: EC 3.5. (Amidohydrolases)

Record Date Created: 19751010

Record Date Completed: 19751010

Chromatography, Gas; Chromatography, Gel; **Hexosamines** --analysis--AN;
Hexoses--analysis--AN; Immune Sera; Immunochemistry; Immunodiffusion;
Leukocytes--immunology--IM; Mannose--analysis--AN; Mice; Oligosaccharides
--isolation and purification--IP; Phagocytosis; Phosphorus--analysis--AN;
Polysaccharides, Bacterial--analysis--AN; Uronic Acids--analysis--AN
CAS Registry No.: 0 (Acids); 0 (Amino Acids); 0 (Antigens,
Bacterial); 0 (Borohydrides); 0 (Hexosamines); 0 (Hexoses); 0
(Immune Sera); 0 (Oligosaccharides); 0 (Polysaccharides, Bacterial); 0
(Uronic Acids); 31103-86-3 (Mannose); 7723-14-0 (Phosphorus)
Record Date Created: 19750609
Record Date Completed: 19750609

3/9/10

DIALOG(R) File 155:MEDLINE(R)

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01777908 74262554 PMID: 4209660

Human antibody response to group A streptococcal teichoic acid.

Klesius P H; Zimmerman R A; Mathews J H; Auernheimer A H

Canadian journal of microbiology (CANADA) Jun 1974, 20 (6) p853-9,

ISSN 0008-4166 Journal Code: 0372707

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Tags: Human

Descriptors: Antibody Formation; *Antigens, Bacterial; *Streptococcus
--immunology--IM; * **Teichoic** Acids; Adolescent; Adult; Age Factors;
Alanine--pharmacology--PD; Antibodies, Bacterial--analysis--AN; Antigens,
Bacterial--analysis--AN; Chromatography, Thin Layer; Erythrocytes
--immunology--IM; Glycerol--analysis--AN; Glycerophosphates--pharmacology
--PD; Glycosides--pharmacology--PD; Hemagglutination Inhibition Tests;
Hemagglutination Tests; **Hexosamines** --pharmacology--PD; Immunodiffusion;
Mercaptoethanol--pharmacology--PD; Ribose--pharmacology--PD; Serotyping;
Stereoisomerism; **Teichoic** Acids--analysis--AN

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Antigens, Bacterial);
0 (Glycerophosphates); 0 (Glycosides); 0 (Hexosamines); 0 (Teichoic
Acids); 50-69-1 (Ribose); 56-41-7 (Alanine); 56-81-5 (Glycerol);
60-24-2 (Mercaptoethanol)

Record Date Created: 19740828

Record Date Completed: 19740828

3/9/11

DIALOG(R) File 155:MEDLINE(R)

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01655123 74060510 PMID: 4202956

**Quantitative chemical composition of peptidoglycan of Listeria
monocytogenes.**

Srivastava K K; Siddique I H

Infection and immunity (UNITED STATES) May 1973, 7 (5) p700-3,

ISSN 0019-9567 Journal Code: 0246127

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Peptidoglycan--analysis--AN; Amino Acids--analysis--AN;
Autoanalysis; Bacterial Proteins--analysis--AN; Cell Wall--analysis--AN;
Glucosamine--analysis--AN; **Hexosamines** --analysis--AN; Hexoses--analysis
--AN; Listeria monocytogenes--analysis--AN; Microscopy, Electron; Muramic
Acids--analysis--AN; Peptidoglycan--isolation and purification--IP;
Phosphorus--analysis--AN; Pronase; Rhamnose--analysis--AN; Sodium Dodecyl
Sulfate; **Teichoic** Acids--analysis--AN

CAS Registry No.: 0 (Amino Acids); 0 (Bacterial Proteins); 0
(Hexosamines); 0 (Hexoses); 0 (Muramic Acids); 0 (Peptidoglycan); 0

Subfile: AIM; INDEX MEDICUS
 Descriptors: *Antigens--analysis--AN; *Cell Wall--analysis--AN;
 *Galactose--analysis--AN; *Immunochemistry; *Polysaccharides, Bacterial
 --analysis--AN; *Staphylococcus--immunology--IM; *Staphylococcus Phages
 --immunology--IM; Amines--analysis--AN; Amino Acids--analysis--AN;
 Bacteriophage Typing; Cell Wall--immunology--IM; Chromatography, Gel;
 Chromatography, Ion Exchange; Chromatography, Paper; Epitopes--analysis--AN
 ; **Hexosamines** --analysis--AN; Immunodiffusion; Immunolectrophoresis;
 Phosphates--analysis--AN; Polysaccharides, Bacterial --isolation and
 purification--IP; Staphylococcus--classification--CL
 CAS Registry No.: 0 (Amines); 0 (Amino Acids); 0 (Antigens); 0
 (Epitopes); 0 (Hexosamines); 0 (Phosphates); 0 (Polysaccharides,
 Bacterial); 26566-61-0 (Galactose)
 Record Date Created: 19710607
 Record Date Completed: 19710607

3/9/17

DIALOG(R) File 155:MEDLINE(R)

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00792957 70092233 PMID: 4391619

Choline-containing teichoic acid as a structural component of pneumococcal cell wall and its role in sensitivity to lysis by an autolytic enzyme.

Mosser J L; Tomasz A

Journal of biological chemistry (UNITED STATES) Jan 25 1970, 245 (2)
 p287-98, ISSN 0021-9258 Journal Code: 2985121R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Cell Wall; *Choline; *Glycerophosphates; *Pentosephosphates
 ; *Streptococcus pneumoniae; Amidohydrolases; Amino Acids--analysis--AN;
 Amino Alcohols; Bacteriolysis; Carbon Isotopes; Cell Wall--analysis--AN;
 Choline--analysis--AN; Chromatography, Gel; Detergents; Glucosamine
 --analysis--AN; Glycerophosphates--analysis--AN; Glycoproteins--analysis
 --AN; Glycosaminoglycans--analysis--AN; **Hexosamines** --analysis--AN;
 Methods; Molecular Weight; Nitrites; Pentosephosphates--analysis--AN;
 Peptides--analysis--AN; Periodic Acid; Phosphoric Acids--analysis--AN;
 Polysaccharides; Ribose; Solubility; Streptococcus pneumoniae--cytology--CY
 ; Streptococcus pneumoniae--enzymology--EN

CAS Registry No.: 0 (Amino Acids); 0 (Amino Alcohols); 0 (Carbon
 Isotopes); 0 (Detergents); 0 (Glycerophosphates); 0 (Glycoproteins);
 0 (Glycosaminoglycans); 0 (Hexosamines); 0 (Nitrites); 0
 (Pentosephosphates); 0 (Peptides); 0 (Phosphoric Acids); 0
 (Polysaccharides); 10450-60-9 (Periodic Acid); 3416-24-8 (Glucosamine)
 ; 50-69-1 (Ribose); 62-49-7 (Choline)

Enzyme No.: EC 3.5. (Amidohydrolases)

Record Date Created: 19700306

Record Date Completed: 19700306

3/9/18

DIALOG(R) File 155:MEDLINE(R)

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00622446 69176213 PMID: 4976492

Influence of growth condition on the concentration of potassium in Bacillus subtilis var. niger and its possible relationship to cellular ribonucleic acid, teichoic acid and teichuronic acid.

Tempest D W; Dicks J W; Ellwood D C

Biochemical journal (ENGLAND) Jan 1968, 106 (1) p237-43, ISSN
 0264-6021 Journal Code: 2984726R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS
Descriptors: *Bacillus subtilis--metabolism--ME; *Glycerophosphates--metabolism--ME; *Pentosephosphates--metabolism--ME; *Phosphorus--metabolism--ME; *Potassium--metabolism--ME; *RNA, Bacterial--metabolism--ME; *Uronic Acids--metabolism--ME; Bacillus subtilis--growth and development--GD; Cell Wall--metabolism--ME; Culture Media; Enterobacter--metabolism--ME; Galactose--metabolism--ME; Glucose--metabolism--ME; Glucuronates--metabolism--ME; **Hexosamines** --metabolism--ME; Magnesium--metabolism--ME; Ribose
CAS Registry No.: 0 (Culture Media); 0 (Glucuronates); 0 (Glycerophosphates); 0 (Hexosamines); 0 (Pentosephosphates); 0 (RNA, Bacterial); 0 (Uronic Acids); 26566-61-0 (Galactose); 50-69-1 (Ribose); 50-99-7 (Glucose); 7439-95-4 (Magnesium); 7440-09-7 (Potassium); 7723-14-0 (Phosphorus)
Record Date Created: 19690619
Record Date Completed: 19690619

3/9/19

DIALOG(R) File 155:MEDLINE(R)

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00547728 69078999 PMID: 4387389

Pneumococcal C-substance, a ribitol teichoic acid containing choline phosphate.

Brundish D E; Baddiley J
Biochemical journal (ENGLAND) Dec 1968, 110 (3) p573-82, ISSN 0264-6021 Journal Code: 2984726R
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

Descriptors: *Choline--analysis--AN; *Pentosephosphates--analysis--AN; *Polysaccharides, Bacterial--analysis--AN; *Streptococcus pneumoniae--analysis--AN; Acids; Alkalies; Cell Wall--analysis--AN; Chromatography; Fatty Acids--analysis--AN; Galactose--analysis--AN; Glucose--analysis--AN; **Hexosamines** --analysis--AN; Nitrogen--analysis--AN; Phosphates--analysis--AN; Phosphorus--analysis--AN; Ribose--analysis--AN; Trichloroacetic Acid
CAS Registry No.: 0 (Acids); 0 (Alkalies); 0 (Fatty Acids); 0 (Hexosamines); 0 (Pentosephosphates); 0 (Phosphates); 0 (Polysaccharides, Bacterial); 26566-61-0 (Galactose); 50-69-1 (Ribose); 50-99-7 (Glucose); 62-49-7 (Choline); 76-03-9 (Trichloroacetic Acid); 7723-14-0 (Phosphorus); 7727-37-9 (Nitrogen)
Record Date Created: 19690217
Record Date Completed: 19690217

3/9/20

DIALOG(R) File 155:MEDLINE(R)

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00478036 68400969 PMID: 4970648

Ratio of teichoic acid and peptidoglycan in cell walls of Bacillus subtilis following spore germination and during vegetative growth.

Boylan C W; Ensign J C
Journal of bacteriology (UNITED STATES) Aug 1968, 96 (2) p421-7, ISSN 0021-9193 Journal Code: 2985120R
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

Descriptors: *Bacillus subtilis--analysis--AN; *Cell Wall--analysis--AN; *Mucoproteins--analysis--AN; *Pentosephosphates--analysis--AN; *Peptides--analysis--AN; Alanine--analysis--AN; Amino Acids--analysis--AN; Bacillus subtilis--growth and development--GD; Cell Division; Glucose--analysis--AN; Glutamates--analysis--AN; Glycerol--analysis--AN; **Hexosamines** --analysis--AN; Phosphates--analysis--AN; Pimelic Acids--analysis--AN; Spores--growth

and development--GD

CAS Registry No.: 0 (Amino Acids); 0 (Glutamates); 0 (Hexosamines);
0 (Mucoproteins); 0 (Pentosephosphates); 0 (Peptides); 0
(Phosphates); 0 (Pimelic Acids); 50-99-7 (Glucose); 56-41-7 (Alanine)
; 56-81-5 (Glycerol)
Record Date Created: 19681025
Record Date Completed: 19681025

3/9/21

DIALOG(R) File 155:MEDLINE(R)

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00434120 68327746 PMID: 5592295

**On the structure of the glycerol- teichoic acid from the cell wall of
Actinomyces antibioticus-39]**

K voprosu o strukture glitserinteikhoevoi kisloty kletochnoi stenki
Actinomyces antibioticus-39.

Zaretskaia M Sh; Naumova I B; Shabarova Z A

Biokhimiia (Moscow, Russia) (USSR) Jul-Aug 1967, 32 (4) p796-802,
ISSN 0320-9725 Journal Code: 0372667

Document type: Journal Article

Languages: RUSSIAN

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: Actinomyces--analysis--AN; *Cell Wall--analysis--AN;
*Galactose--analysis--AN; * **Hexosamines** --analysis--AN; *Pentosephosphates
--analysis--AN; Disaccharides--analysis--AN; Glycosides--analysis--AN;
Hydrogen-Ion Concentration; Polymers--analysis--AN

CAS Registry No.: 0 (Disaccharides); 0 (Glycosides); 0 (Hexosamines)
; 0 (Pentosephosphates); 0 (Polymers); 26566-61-0 (Galactose)

Record Date Created: 19680906

Record Date Completed: 19680906

?logoff hold

22sep03 15:58:01 User228206 Session D205

01582427 73236642 PMID: 4199049

Isolation of the teichoic acid of Bacillus subtilis 168 by affinity chromatography.

Doyle R J; Birdsell D C; Young F E

Preparative biochemistry (UNITED STATES) 1973, 3 (1) p13-8, ISSN 0032-7484 Journal Code: 1276634

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Bacillus subtilis--analysis--AN; *Glycosides--isolation and purification--IP; *Phosphoric Acids--isolation and purification--IP; Alanine--analysis--AN; Bacillus subtilis--cytology--CY; Cell Wall--analysis--AN; Chromatography, Affinity; Concanavalin A; Cyanogen Bromide; Dicarboxylic Acids--analysis--AN; Evaluation Studies; Glucose--analysis--AN; Hexosamines--analysis--AN; Muramic Acids--analysis--AN; Phosphorus--analysis--AN; Polysaccharides; Teichoic Acids--analysis--AN; Teichoic Acids--isolation and purification--IP; Temperature; **Trichloroacetic Acid** CAS Registry No.: 0 (Dicarboxylic Acids); 0 (Glycosides); 0 (Hexosamines); 0 (Muramic Acids); 0 (Phosphoric Acids); 0 (Polysaccharides); 0 (Teichoic Acids); 11028-71-0 (Concanavalin A); 50-99-7 (Glucose); 506-68-3 (Cyanogen Bromide); 56-41-7 (Alanine); 76-03-9 (Trichloroacetic Acid); 7723-14-0 (Phosphorus)

Record Date Created: 19731014

Record Date Completed: 19731014

01137375 71265409 PMID: 4327509

Glucosylation of teichoic acid: solubilization and partial characterization of the uridine diphosphoglucose: polyglycerolteichoic acid glucosyl transferase from membranes of Bacillus subtilis.

Brooks D; Mays L L; Hatefi Y; Young F E

Journal of bacteriology (UNITED STATES) Jul 1971, 107 (1) p223-9,

ISSN 0021-9193 Journal Code: 2985120R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Bacillus subtilis--enzymology--EN; *Cell Membrane --enzymology--EN; *Glucosyltransferases; *Glycerophosphates--metabolism--ME; *Glycosides--metabolism--ME; *Solubility; Bacillus subtilis--growth and development--GD; Bacillus subtilis--metabolism--ME; Carbon Isotopes; Chromatography, Paper; Culture Media; Cytoplasm--enzymology--EN; Electron Transport; Filtration; Glucose--metabolism--ME; Glucosyltransferases --metabolism--ME; Hydrogen-Ion Concentration; Magnesium--pharmacology--PD; Nucleoside Diphosphate Sugars; Perchloric Acid; Polymers--metabolism--ME; Solvents; Temperature; **Trichloroacetic** Acid; Ultracentrifugation; Uracil Nucleotides

CAS Registry No.: 0 (Carbon Isotopes); 0 (Culture Media); 0 (Glycerophosphates); 0 (Glycosides); 0 (Nucleoside Diphosphate Sugars); 0 (Polymers); 0 (Solvents); 0 (Uracil Nucleotides); 50-99-7 (Glucose); 7439-95-4 (Magnesium); 76-03-9 (Trichloroacetic Acid); 7601-90-3 (Perchloric Acid)

Enzyme No.: EC 2.4.1.- (Glucosyltransferases)

Record Date Created: 19711014

Record Date Completed: 19711014

00547729 69079000 PMID: 5701689

The glycerol teichoic acid from walls of Staphylococcus epidermidis I2.

Archibald A R; Baddiley J; Shaukat G A

Biochemical journal (ENGLAND) Dec 1968, 110 (3) p583-8, ISSN

0264-6021 Journal Code: 2984726R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Cell Wall--analysis--AN; *Pentosephosphates--analysis--AN;
*Polysaccharides, Bacterial--analysis--AN; *Staphylococcus--analysis--AN;
Alanine--analysis--AN; Disaccharides--analysis--AN; Glucose--analysis--AN;
Glycerol--analysis--AN; Glycerophosphates--analysis--AN; Membranes
--analysis--AN; Phosphates--analysis--AN; Solubility; **Trichloroacetic**
Acid

CAS Registry No.: 0 (Disaccharides); 0 (Glycerophosphates); 0
(Pentosephosphates); 0 (Phosphates); 0 (Polysaccharides, Bacterial);
50-99-7 (Glucose); 56-41-7 (Alanine); 56-81-5 (Glycerol); 76-03-9
(Trichloroacetic Acid)

Record Date Created: 19690217

Record Date Completed: 19690217

00547726 69078997 PMID: 5701687

The membrane teichoic acid of Staphylococcus lactis I3.

Archibald A R; Baddiley J; Button D

Biochemical journal (ENGLAND) Dec 1968, 110 (3) p559-63, ISSN

0264-6021 Journal Code: 2984726R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Membranes--analysis--AN; *Pentosephosphates--analysis--AN;
*Polysaccharides, Bacterial--analysis--AN; *Staphylococcus--analysis--AN;
Acids; Alanine--analysis--AN; Alkalies; Amino Sugars--analysis--AN;
Carbohydrates--analysis--AN; Glycerol--analysis--AN; Phosphates--analysis
--AN; Polysaccharides, Bacterial--physiology--PH; **Trichloroacetic Acid**

CAS Registry No.: 0 (Acids); 0 (Alkalies); 0 (Amino Sugars); 0
(Carbohydrates); 0 (Pentosephosphates); 0 (Phosphates); 0
(Polysaccharides, Bacterial); 56-41-7 (Alanine); 56-81-5 (Glycerol);
76-03-9 (Trichloroacetic Acid)

Record Date Created: 19690217

Record Date Completed: 19690217

5/9/13

DIALOG(R) File 155:MEDLINE(R)

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00547724 69078995 PMID: 5701685

The glycerol teichoic acid of walls of Staphylococcus lactis I3.

Archibald A R; Baddiley J; Button D

Biochemical journal (ENGLAND) Dec 1968, 110 (3) p543-57, ISSN

0264-6021 Journal Code: 2984726R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Cell Wall--analysis--AN; *Pentosephosphates--analysis--AN;
*Polysaccharides, Bacterial--analysis--AN; *Staphylococcus--analysis--AN;
Acids; Alanine--analysis--AN; Alkalies; Esters; Glucosamine--analysis--AN;
Glycerol--analysis--AN; Phosphates--analysis--AN; Polysaccharides,
Bacterial--biosynthesis--BI; **Trichloroacetic Acid**

CAS Registry No.: 0 (Acids); 0 (Alkalies); 0 (Esters); 0
(Pentosephosphates); 0 (Phosphates); 0 (Polysaccharides, Bacterial);
3416-24-8 (Glucosamine); 56-41-7 (Alanine); 56-81-5 (Glycerol);
76-03-9 (Trichloroacetic Acid)

Record Date Created: 19690217

Record Date Completed: 19690217

WEST Search History

DATE: Monday, September 22, 2003

Set Name Query

side by side

Hit Count Set Name

result set

DB=USPT; PLUR=YES; OP=AND

L1	glycerol same phosphate same (mab or moab or monoclonal or mono-clonal or scfv or antibody or antibodies)	794	L1
L2	L1.clm.	1	L2
L3	L1 same (method or process)	185	L3
L4	L3 and (gram or staphyloc\$ or epidermidis or aureus)	85	L4
L5	L3 same (gram or staphyloc\$ or epidermidis or aureus)	9	L5
L6	glycerol.clm. same phosphate.clm.	424	L6
L7	L6 and (mab or moab or monoclonal or mono-clonal or scfv or antibody or antibodies).clm.	19	L7

END OF SEARCH HISTORY

1 0 UNENCAPSUL? AND EPIDERMIDIS? AND TEICHOIC?
 S2 130153 ENCAPSUL?
 S3 3196 UNENCAPSUL?
 S4 37384 EPIDERMID?
 S5 7249 TEICHOIC?
 S6 17 (S2 OR S3) AND S4 AND S5
 S7 6 S4/TI AND S3/TI
 S8 6 S7 NOT S6
 S9 46 S4/TI AND S5/TI
 S10 40 S9 NOT S6 NOT S7 NOT S8
 ?t s10/9/35-36 39

10/9/35 (Item 5 from file: 399)
 DIALOG(R)File 399:CA SEARCH(R)
 (c) 2003 American Chemical Society. All rts. reserv.

113003207 CA: 113(1)3207k JOURNAL
Adherence of Staphylococcus epidermidis to pharyngeal epithelial cells mediated by lipoteichoic acid
 AUTHOR(S): Chugh, Tulsi D.; Bahr, George M.; Essa, Sahar A.; Burns, Gary J.
 LOCATION: Fac. Med., Kuwait Univ., Safat, Kuwait, 13110
 JOURNAL: Curr. Microbiol. DATE: 1990 VOLUME: 20 NUMBER: 5 PAGES: 343-7 CODEN: CUMIDD ISSN: 0343-8651 LANGUAGE: English
 SECTION:
 CA210006 Microbial Biochemistry
 CA214XXX Mammalian Pathological Biochemistry
 IDENTIFIERS: Staphylococcus lipoteichoate adhesion mucosa cell
 DESCRIPTORS:
 Staphylococcus epidermidis...
 lipoteichoic acid of, in adherence to pharyngeal epithelial cells of humans
 Adhesion,bio-...
 of Staphylococcus epidermidis, to pharyngeal epithelial cells of humans, lipoteichoic acid mediation of
 Pharynx,epithelium...
 Staphylococcus epidermidis adherence to human, lipoteichoic acid mediation of
 CAS REGISTRY NUMBERS:
 9041-38-7 lipo-, of Staphylococcus epidermidis, in adherence to pharyngeal epithelial cell of humans

10/9/36 (Item 6 from file: 399)
 DIALOG(R)File 399:CA SEARCH(R)
 (c) 2003 American Chemical Society. All rts. reserv.

112213607 CA: 112(23)213607w JOURNAL
Adherence of Staphylococcus epidermidis to fibrin-platelet clots in vitro mediated by lipoteichoic acid
 AUTHOR(S): Chugh, Tulsi D.; Burns, Gary J.; Shuhaiber, Hani J.; Bahr, George M.
 LOCATION: Fac. Med., Univ. Kuwait, Kuwait,
 JOURNAL: Infect. Immun. DATE: 1990 VOLUME: 58 NUMBER: 2 PAGES: 315-19
 CODEN: INFIBR ISSN: 0019-9567 LANGUAGE: English
 SECTION:
 CA210001 Microbial Biochemistry
 CA214XXX Mammalian Pathological Biochemistry
 IDENTIFIERS: Staphylococcus lipoteichoate adhesin fibrin thrombocyte clot
 DESCRIPTORS:
 Fibrins...
 -blood platelet clots, lipoteichoic acid-induced adhesion of Staphylococcus epidermidis to, of humans, prosthetic valve endocarditis in relation to
 Blood platelet...
 -fibrin clots, lipoteichoic acid-induced adhesion of Staphylococcus epidermidis to, of humans, prosthetic valve endocarditis in relation to
 Agglutinins and Lectins,adhesins...
 lipoteichoic acid as, Staphylococcus epidermidis adhesion to human

fibrin-platelet clots mediated by, prosthetic valve endocarditis in
relation to
Staphylococcus epidermidis...
lipoteichoic acid-induced adhesion of, to human fibrin-platelet clots,
prosthetic valve endocarditis in relation to
Adhesion,bio-...
of Staphylococcus epidermidis, to human fibrin-platelet clots,
lipoteichoic acid mediation of, prosthetic valve endocarditis in
relation to
Heart,endocarditis,disease or disorder...
prosthetic valve, lipoteichoic acid-mediated adhesion of Staphylococcus
epidermidis to human fibrin-platelet clots in relation to
CAS REGISTRY NUMBERS:
9041-38-7 lipo-, Staphylococcus epidermidis adhesion to human
fibrin-platelet clots mediated by, prosthetic valve endocarditis in
relation to

10/9/39 (Item 9 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
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67052255 CA: 67(11)52255q JOURNAL
Serologic investigations of teichoic acids from the walls of
Staphylococcus epidermidis and Micrococcus
AUTHOR(S): Oeding, Per; Myklestad, Berit; Davison, A. L.
LOCATION: Sch. Med., Univ. Bergen, Bergen, Norway
JOURNAL: Acta Pathol. Microbiol. Scand. DATE: 1967 VOLUME: 69 NUMBER:
3 PAGES: 458-64 CODEN: APMIAL LANGUAGE: English
SECTION:
CA813000 Immunochemistry
IDENTIFIERS: STAPHYLOCOCCUS TEICHOIC ACID, GLUCOSE TEICHOATE BACTERIA
DESCRIPTORS:
Staphylococcus...
epidermidis, teichoic acids in cell walls of
Teichoic acids...
in Micrococcus and Staphylococcus epidermidis cell walls
Micrococcus...
teichoic acids in cell walls of
?logoff hold

07639909 93095104 PMID: 1460655

Comparison of cell-wall teichoic acid with high-molecular-weight extracellular slime material from Staphylococcus epidermidis.

Hussain M; Hastings J G; White P J

Department of Molecular Biology and Biotechnology, The University, Sheffield.

Journal of medical microbiology (ENGLAND) Dec 1992, 37 (6) p368-75,
ISSN 0022-2615 Journal Code: 0224131

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Extracellular high-mol.-wt material was separated from liquid cultures of Staphylococcus epidermidis. This material contained protein c. 20% w/w and polysaccharide c. 80% w/w. The polysaccharide was isolated by gel and ion-exchange chromatography and contained glycerol phosphate, glucose, N-acetylglucosamine, and D-alanine. Cell-wall teichoic acid was isolated from strain RP-62A and had a similar composition.

Tags: Comparative Study; Support, Non-U.S. Gov't

Descriptors: Bacterial **Capsules** --chemistry--CH; *Polysaccharides, Bacterial--chemistry--CH; * **Staphylococcus epidermidis** --chemistry--CH; * **Teichoic** Acids--chemistry--CH; Acetylglucosamine--analysis--AN; Alanine --analysis--AN; Cell Fractionation; Cell Wall--chemistry--CH; Chromatography, Affinity; Chromatography, Ion Exchange; Chromatography, Paper; Glucose--analysis--AN; Glycerophosphates--analysis--AN; Lectins; Molecular Weight; Polysaccharides, Bacterial--isolation and purification --IP; Teichoic Acids--isolation and purification--IP

CAS Registry No.: 0 (Bacterial Capsules); 0 (Glycerophosphates); 0 (Lectins); 0 (Polysaccharides, Bacterial); 0 (Teichoic Acids); 50-99-7 (Glucose); 56-41-7 (Alanine); 7512-17-6 (Acetylglucosamine)

Record Date Created: 19930112

Record Date Completed: 19930112

04635207 84278677 PMID: 6431864

Comparison of cell wall teichoic acid fractions isolated from three different encapsulated strains of Staphylococcus epidermidis.

Ohshima Y; Ohtomo T; Ichiman Y; Chomarat M; Yoshida K

Annales de microbiologie (FRANCE) May-Jun 1984, 135A (3) p353-65,
ISSN 0300-5410 Journal Code: 0354704

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Teichoic acid preparations extracted from the cell wall of three serologically different encapsulated strains of **Staphylococcus epidermidis**, ATCC-31432 (**capsular** type I), SE-360 (**capsular** type II) and SE-10 (**capsular** type III) were purified by DEAE-cellulose and Sephadex G-50 column chromatography. The preparations showed immunological heterogeneity by an agar diffusion test. The chemical properties of the cell wall **teichoic** acid preparations of **capsular** types I and III were regarded as N-acetyl-glucosaminyl glycerol-phosphate polymers containing N-acetylglucosamine and phosphate at molar ratios of 0.22-1.0 and 0.33-1.0, respectively. The preparation of **capsular** type II was assumed to be an alpha-glucosyl glycerol-phosphate polymer containing glucose and phosphate at a molar ratio of 0.49-1.0, and it reacted strongly with concanavalin A. Moreover, alanine, glycine, serine and lysine were shown, among these preparations, to be a common amino acid composition. These results indicate that cell wall **teichoic** acids obtained from these strains were biochemically and immunologically different from each other.

Tags: Comparative Study

Descriptors: *Staphylococcus epidermidis--ultrastructure--UL; *Teichoic Acids--isolation and purification--IP; Cell Wall--analysis--AN; Chemistry; Chromatography, DEAE-Cellulose; Chromatography, Ion Exchange; Immunodiffusion; Staphylococcus epidermidis--analysis--AN; Staphylococcus epidermidis--genetics--GE; Teichoic Acids--immunology--IM

CAS Registry No.: 0 (Teichoic Acids)

Record Date Created: 19840911

Record Date Completed: 19840911

WEST[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 1 of 1 returned.**☐ 1. Document ID: US 5505945 A

L3: Entry 1 of 1

File: USPT

Apr 9, 1996

DOCUMENT-IDENTIFIER: US 5505945 A

TITLE: Method and compositions for the direct concentrated delivery of passive immunity

US Patent No. (1):
5505945Detailed Description Text (3):

Experiments have shown that hyperimmune sera made in rabbits by injecting rabbits with killed *Staphylococcus epidermidis* (RP12 strain) and/or the polysaccharide capsular slime extracted from *S. epidermidis* strain RP12 markedly reduces the adherence of the RP12 strain to the surface of the biomaterial polymethylmethacrylate (PMMA). *S. epidermidis*, which is usually thought of as a nonpathogenic commensal human skin saprophyte, has emerged as a serious pathogen in biomaterial-related infections as well as in immunocompromised patients (Gristina et al., Zbl. Bakt. Suppl. 16, Gustav Fischer Verlag, Stuttgart, New York, pp. 143-157 (1987)). In these experiments, standard suspensions of the RP12 strain of *S. epidermidis* were incubated for thirty minutes with 1:200 dilutions of either normal rabbit serum or hyperimmune serum against the RP12 strain of *S. epidermidis*. This allowed the specific antibodies to bind to the surface polysaccharide molecules of the organisms. These suspensions were washed with phosphate buffered saline (PBS) and standard samples of PMMA were added to the various preparations. The bacteria-PMMA preparations were incubated for sixty minutes, and the PMMA samples were then washed three times with PBS to remove loosely attached bacteria. The PMMA samples were sonicated for ten minutes in PBS and the supernatants were diluted and plated on Trypticase-Soy agar to determine the number of colony forming units (CFU) that adhered to the PMMA samples.

Other Reference Publication (18):

Kojima, "Antibody to the Capsular Polysaccharide/Adhesion Protects Rabbits . . .", Journal of Infectious Diseases 1990;162, Aug., pp. 435-441.

Full	Title	CLS.1	DEF.1	SEQ.1	ATT.1

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Terms	Documents
L1 and (polysaccharide or carbohydrate or sugar)	1

Display Format:[KWIC](#)[Change Format](#)[Previous Page](#)[Next Page](#)

07207437 92069863 PMID: 1959203

Protection against endocarditis due to Staphylococcus epidermidis by immunization with capsular polysaccharide/adhesin.

Takeda S; Pier G B; Kojima Y; Tojo M; Muller E; Tosteson T; Goldmann D A
Channing Laboratory, Department of Medicine, Brigham and Women's Hospital.

Circulation (UNITED STATES) Dec 1991, 84 (6) p2539-46, ISSN 0009-7322 Journal Code: 0147763

Contract/Grant No.: AI 23335; AI; NIAID

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: AIM; INDEX MEDICUS

BACKGROUND. *Staphylococcus epidermidis* is the principal pathogen in prosthetic valve endocarditis. The **capsular** polysaccharide adhesin (PS/A) has been shown to mediate attachment of bacteria to medical devices. In this study, we investigated the efficacy of active and passive immunization against PS/A in preventing *S. epidermidis* endocarditis in a rabbit model. **METHODS AND RESULTS.** Aortic valve vegetations were produced by inserting a Teflon catheter into the left ventricle through the right carotid artery. Bacteremia and endocarditis were then established by implanting in the left jugular vein a catheter that was attached to an osmotic pump and contaminated with *S. epidermidis* strain RP62A. During a 3-week study period, of 64 blood cultures taken every second or third day from six nonimmune rabbits, 54 (84%) yielded strain RP62A. In rabbits actively immunized with PS/A, eight of 60 blood cultures (13%) were positive (odds ratio 5.0, 95% CI, 2.0-12.3, $p = 0.005$). At death, all six nonimmune rabbits had infected vegetations that yielded 10(6)-10(11) colony-forming units (cfu)/g of vegetation, whereas only one PS/A-immunized rabbit had an infected vegetation. Immunization protocols designed to elicit antibody to **teichoic** acid but not to PS/A afforded no protection against bacteremia or endocarditis. Infusion of monoclonal antibody to PS/A through a catheter in the right jugular vein provided a level of protection against both bacteremia and endocarditis comparable to that produced by active immunization. In vitro, antibody against PS/A was opsonic for *S. epidermidis*. **CONCLUSIONS.** Immunoprophylaxis targeted at staphylococcal PS/A is a promising new approach to the prevention of prosthetic valve endocarditis.

Tags: Animal; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: *Bacterial Adhesion; *Endocarditis, Bacterial--prevention and control--PC; *Polysaccharides, Bacterial--immunology--IM; *Staphylococcal Infections--prevention and control--PC; *Staphylococcus epidermidis--immunology--IM; Antibodies, Monoclonal--therapeutic use--TU; Coagulase--analysis--AN; Immunization; Phagocytosis; Rabbits; Septicemia--prevention and control--PC

CAS Registry No.: 0 (Antibodies, Monoclonal); 0 (Coagulase); 0 (Polysaccharides, Bacterial)

Record Date Created: 19920107

Record Date Completed: 19920107

06698739 90324658 PMID: 2373873

Antibody to the capsular polysaccharide/adhesin protects rabbits against catheter-related bacteremia due to coagulase-negative staphylococci.

Kojima Y; Tojo M; Goldmann D A; Tosteson T D; Pier G B

Department of Medicine, Brigham and Women's Hospital, Boston, Massachusetts.

Journal of infectious diseases (UNITED STATES) Aug 1990, 162 (2) p435-41, ISSN 0022-1899 Journal Code: 0413675

Contract/Grant No.: AI-23335; AI; NIAID

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: AIM; INDEX MEDICUS

A rabbit model of catheter-related bacteremia was developed to study immunity to the **capsular** polysaccharide/adhesin (PS/A) of coagulase-negative **staphylococci**. Catheters colonized by coagulase-negative **staphylococci** were inserted into the right jugular vein and attached to a subcutaneous osmotic pump, and blood cultures were obtained over 14 days. Nonimmune rabbits were bacteremic for 6-8 days after infection, hypoglycemic, and hyperlipidemic and had strong immune responses to **teichoic** acid but not to PS/A. PS/A immunization, but not **teichoic** acid immunization, reduced the number of bacteremic days by approximately 60%, diminished the hypoglycemia and hyperlipidemia, and ablated the immune responses to **teichoic** acid. Passive infusion of PS/A-specific polyclonal and monoclonal antibodies using a separate, noninfected catheter-pump combination implanted in the left jugular protected against both bacteremia and hematogenous colonization of this contralateral catheter.

Tags: Animal; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: *Immunization, Passive; *Polysaccharides, Bacterial --immunology--IM; *Septicemia--immunology--IM; *Staphylococcal Infections --immunology--IM; *Staphylococcus epidermidis--immunology--IM; Blood Chemical Analysis; Blood Glucose--analysis--AN; Catheters, Indwelling; Disease Models, Animal; Infusion Pumps, Implantable; Lipids--blood--BL; Phagocytosis; Polysaccharides, Bacterial--administration and dosage--AD; Rabbits; Septicemia--prevention and control--PC; Staphylococcal Infections --prevention and control--PC; Teichoic Acids--immunology--IM

CAS Registry No.: 0 (Blood Glucose); 0 (Lipids); 0 (Polysaccharides, Bacterial); 0 (Teichoic Acids)

Record Date Created: 19900827

Record Date Completed: 19900827

04393318 84035132 PMID: 6631415

Survey of taurine uptake and metabolism in Staphylococcus aureus.

Smiley D W; Wilkinson B J

Journal of general microbiology (ENGLAND) Aug 1983, 129 (Pt 8)
p2421-8, ISSN 0022-1287 Journal Code: 0375371

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Taurine has been reported to be a component of the **capsular** polysaccharide of the encapsulated M strain of **Staphylococcus aureus**. This led to a study of the uptake and metabolism of [1,2-¹⁴C]taurine in a variety of encapsulated and unencapsulated *S. aureus* strains. Taurine was taken up by all strains studied. A discrepancy between uptake measured as depletion of radioactivity from growth medium and as cell-associated radioactivity suggested that taurine may be catabolized to CO₂ in some strains. In most strains, cell-associated radioactivity was located mainly in cold TCA-soluble (pool metabolites) fractions. About 90% of the cell-associated radioactivity was present in the pool metabolites fraction in the M strain, and about 10% in hot TCA-soluble (nucleic acid- **teichoic** acid- **capsular** polysaccharide) fraction. Radioactivity in spent medium and the **capsular** polysaccharide-containing fraction appeared to be present as taurine in this strain. Radioactivity in the pool metabolites fraction of three of the strains examined did not chromatograph as taurine, indicating that taurine was converted into other cell metabolites. One strain incorporated radioactivity from taurine into cellular macromolecules, thus revealing a heterogeneity of **staphylococcal** taurine metabolism.

Descriptors: *Staphylococcus aureus--metabolism--ME; *Taurine--metabolism--ME; Chromatography, Paper; Chromatography, Thin Layer; Subcellular Fractions--metabolism--ME

CAS Registry No.: 107-35-7 (Taurine)

Record Date Created: 19831220

Record Date Completed: 19831220

3/9/8

DIALOG(R) File 155:MEDLINE(R)

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01956923 75132557 PMID: 1120614

Preparation and chemical composition of the cell walls of Streptococcus mutans.

Cooper H R; Chorpenning F W; Rosen S

Infection and immunity (UNITED STATES) Apr 1975, 11 (4) p823-8,

ISSN 0019-9567 Journal Code: 0246127

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Purified cell walls from Streptococcus mutans strain BHT were prepared without the use of proteolytic enzymes in order to retain all cell wall constituents for chemical analysis. Of four methods employed, the Ribi cell fractionator produced disrupted cell suspensions which could be most thoroughly purified on sucrose gradients. Results of chemical analyses on purified cell walls prepared in this 8.9% glycerol **teichoic** acid, 33.6% non-peptidoglycan polysaccharide, and 49.9% peptidoglycan.

Tags: Support, U.S. Gov't, P.H.S.

Descriptors: *Cell Wall--analysis--AN; *Streptococcus--analysis--AN; Absorption; Amino Acids--analysis--AN; Cell Fractionation; Freezing; Galactose--analysis--AN; Glucose--analysis--AN; Glycerol--analysis--AN; **Hexosamines** --analysis--AN; Hexoses--analysis--AN; Microscopy, Electron; Monosaccharides--analysis--AN; Pentoses--analysis--AN; Phosphorus--analysis--AN; Rhamnose--analysis--AN; Sonication; Streptococcus--ultrastructure--UL; Ultraviolet Rays

CAS Registry No.: 0 (Amino Acids); 0 (Hexosamines); 0 (Hexoses); 0 (Monosaccharides); 0 (Pentoses); 10485-94-6 (Rhamnose); 26566-61-0 (Galactose); 50-99-7 (Glucose); 56-81-5 (Glycerol); 7723-14-0 (Phosphorus)

Record Date Created: 19750621

Record Date Completed: 19750621

3/9/9

DIALOG(R) File 155:MEDLINE(R)

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01939859 75115459 PMID: 804001

Immunochemistry of an acidic antigen isolated from a Staphylococcus aureus.

Karakawa W W; Kane J A

Journal of immunology (Baltimore, Md. - 1950) (UNITED STATES) Jan 1975, 114 (1 Pt 2) p310-5, ISSN 0022-1767 Journal Code: 2985117R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: AIM; INDEX MEDICUS

Staphylococcus aureus, strain 7007, was shown to possess an anti-phagocytic surface antigen. This surface antigen was separated from the species-specific **teichoic** acid by a combination of DEAE-cellulose chromatography and Bio-Gel filtration. Chemical analyses indicated that the 7007 surface antigen consisted of aminomannuronic acid and fucosamine. Immunochemical analyses suggested that this polymer, although consisting of the same components as the staphylococcal T-antigen described by Wu and Park was, in fact, immunologically distinct from the T-antigen. Antibodies directed against the surface antigen were isolated from anti-7007 rabbit serum by affinity chromatography. These antibodies were shown to belong to the IgG class of immunoglobulins and were effective in enhancing in vitro phagocytosis of 7007 cells by polymorphonuclear leukocytes.

Tags: Animal; Support, U.S. Gov't, P.H.S.

Descriptors: *Antigens, Bacterial; *Staphylococcus--immunology--IM; Acids; Amino Acids--analysis--AN; Antigens, Bacterial --isolation and purification--IP; Borohydrides; Chromatography, DEAE-Cellulose;

(Teichoic Acids); 10485-94-6 (Rhamnose); 151-21-3 (Sodium Dodecyl Sulfate); 3416-24-8 (Glucosamine); 7723-14-0 (Phosphorus)
Enzyme No.: EC 3.4.24.- (Pronase)
Record Date Created: 19740222
Record Date Completed: 19740222

3/9/12

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2003 The Dialog Corp. All rts. reserv.

01582427 73236642 PMID: 4199049

Isolation of the teichoic acid of Bacillus subtilis 168 by affinity chromatography.

Doyle R J; Birdsell D C; Young F E

Preparative biochemistry (UNITED STATES) 1973, 3 (1) p13-8, ISSN 0032-7484 Journal Code: 1276634

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Bacillus subtilis--analysis--AN; *Glycosides--isolation and purification--IP; *Phosphoric Acids--isolation and purification--IP; Alanine--analysis--AN; Bacillus subtilis--cytology--CY; Cell Wall--analysis--AN; Chromatography, Affinity; Concanavalin A; Cyanogen Bromide; Dicarboxylic Acids--analysis--AN; Evaluation Studies; Glucose--analysis--AN; Hexosamines --analysis--AN; Muramic Acids--analysis--AN; Phosphorus --analysis--AN; Polysaccharides; Teichoic Acids--analysis--AN; Teichoic Acids--isolation and purification--IP; Temperature; Trichloroacetic Acid
CAS Registry No.: 0 (Dicarboxylic Acids); 0 (Glycosides); 0 (Hexosamines); 0 (Muramic Acids); 0 (Phosphoric Acids); 0 (Polysaccharides); 0 (Teichoic Acids); 11028-71-0 (Concanavalin A); 50-99-7 (Glucose); 506-68-3 (Cyanogen Bromide); 56-41-7 (Alanine); 76-03-9 (Trichloroacetic Acid); 7723-14-0 (Phosphorus)

Record Date Created: 19731014

Record Date Completed: 19731014

3/9/13

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2003 The Dialog Corp. All rts. reserv.

01512293 73161737 PMID: 4512329

Molecular arrangement of teichoic acid in the cell wall of Staphylococcus lactis.

Archibald A R; Baddiley J; Heckels J E

Nature- New biology (ENGLAND) Jan 3 1973, 241 (105) p29-31, ISSN 0090-0028 Journal Code: 0410463

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Glycosides; *Phosphoric Acids; *Staphylococcus--analysis--AN; Cell Wall--analysis--AN; Cell Wall--metabolism--ME; Hexosamines --isolation and purification--IP; Models, Structural; Molecular Conformation; Peptidoglycan; Teichoic Acids--isolation and purification--IP

CAS Registry No.: 0 (Glycosides); 0 (Hexosamines); 0 (Peptidoglycan); 0 (Phosphoric Acids); 0 (Teichoic Acids)

Record Date Created: 19730619

Record Date Completed: 19730619

3/9/14

DIALOG(R) File 155:MEDLINE(R)

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01213095 72065727 PMID: 5001874

Chemical characterization of a new surface antigenic polysaccharide from a mutant of Staphylococcus aureus.

Wu T C; Park J T

Journal of bacteriology (UNITED STATES) Nov 1971, 108 (2) p874-84,
ISSN 0021-9193 Journal Code: 2985120R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Mutation; *Polysaccharides, Bacterial--analysis--AN;
*Staphylococcus--analysis--AN; Agglutination Tests; Amino Sugars--analysis
--AN; Antigens, Bacterial--analysis--AN; Antigens, Bacterial--isolation
and purification--IP; Cell Wall--analysis--AN; Chemistry; Chromatography,
DEAE-Cellulose; Chromatography, Paper; Coliphages; Genetics, Microbial;
Glucosamine--analysis--AN; **Hexosamines** --analysis--AN; Immune Sera;
Immunodiffusion; Immunoelectrophoresis; Indicators and Reagents; Lysogeny;
Phosphorus--analysis--AN; Polymers--analysis--AN; Spectrophotometry;
Staphylococcus--immunology--IM; **Teichoic** Acids--analysis--AN; Uronic
Acids--analysis--AN

CAS Registry No.: 0 (Amino Sugars); 0 (Antigens, Bacterial); 0
(Hexosamines); 0 (Immune Sera); 0 (Indicators and Reagents); 0
(Polymers); 0 (Polysaccharides, Bacterial); 0 (Teichoic Acids); 0
(Uronic Acids); 3416-24-8 (Glucosamine); 7723-14-0 (Phosphorus)

Record Date Created: 19720222

Record Date Completed: 19720222

3/9/15

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2003 The Dialog Corp. All rts. reserv.

01117986 71237721 PMID: 5556045

**Structure of teichoic acid from the cell wall of Actinomyces
antibioticus, strain 39]**

Struktura teikhoevoi kisloty iz kletochnoi stenki Actinomyces
antibioticus, shtamm 39.

Zaretskaia M Sh; Naumova I B; Shabarova Z A

Biokhimiia (Moscow, Russia) (USSR) Jan-Feb 1971, 36 (1) p97-107,

ISSN 0320-9725 Journal Code: 0372667

Document type: Journal Article

Languages: RUSSIAN

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Cell Wall--analysis--AN; *Glycerophosphates--analysis--AN;
*Streptomyces--analysis--AN; Galactose--analysis--AN; **Hexosamines**
--analysis--AN; Polymers--analysis--AN

CAS Registry No.: 0 (Glycerophosphates); 0 (Hexosamines); 0
(Polymers); 26566-61-0 (Galactose)

Record Date Created: 19710827

Record Date Completed: 19710827

3/9/16

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2003 The Dialog Corp. All rts. reserv.

01067127 71164637 PMID: 4101777

**Immunochemical analysis of a galactosamine-rich teichoic acid of
Staphylococcus aureus, phage type 187.**

Karakawa W W; Kane J A

Journal of immunology (Baltimore, Md. - 1950) (UNITED STATES) Apr 1971,
106 (4) p900-6, ISSN 0022-1767 Journal Code: 2985117R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

>>>KWIC option is not available in file(s): 399

10/3,KWIC/35 (Item 5 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
(c) 2003 American Chemical Society. All rts. reserv.

113003207 CA: 113(1)3207k JOURNAL
Adherence of Staphylococcus epidermidis to pharyngeal epithelial cells mediated by lipoteichoic acid
AUTHOR(S): Chugh, Tulsi D.; Bahr, George M.; Essa, Sahar A.; Burns, Gary J.
LOCATION: Fac. Med., Kuwait Univ., Safat, Kuwait, 13110
JOURNAL: Curr. Microbiol. DATE: 1990 VOLUME: 20 NUMBER: 5 PAGES: 343-7
CODEN: CUMIDD ISSN: 0343-8651 LANGUAGE: English

10/3,KWIC/36 (Item 6 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
(c) 2003 American Chemical Society. All rts. reserv.

112213607 CA: 112(23)213607w JOURNAL
Adherence of Staphylococcus epidermidis to fibrin-platelet clots in vitro mediated by lipoteichoic acid
AUTHOR(S): Chugh, Tulsi D.; Burns, Gary J.; Shuhaiber, Hani J.; Bahr, George M.
LOCATION: Fac. Med., Univ. Kuwait, Kuwait,
JOURNAL: Infect. Immun. DATE: 1990 VOLUME: 58 NUMBER: 2 PAGES: 315-19
CODEN: INFIBR ISSN: 0019-9567 LANGUAGE: English

10/3,KWIC/39 (Item 9 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
(c) 2003 American Chemical Society. All rts. reserv.

67052255 CA: 67(11)52255q JOURNAL
Serologic investigations of teichoic acids from the walls of Staphylococcus epidermidis and Micrococcus
AUTHOR(S): Oeding, Per; Myklestad, Berit; Davison, A. L.
LOCATION: Sch. Med., Univ. Bergen, Bergen, Norway
JOURNAL: Acta Pathol. Microbiol. Scand. DATE: 1967 VOLUME: 69 NUMBER: 3
PAGES: 458-64 CODEN: APMIAL LANGUAGE: English
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23sep03 12:02:27 User228206 Session D2057.6
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\$6.01 Estimated cost File34
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\$0.04	Estimated cost File444			
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\$0.06	Estimated cost File467			
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\$0.22	TELNET			
\$17.52	Estimated cost this search			
\$17.52	Estimated total session cost 0.372 DialUnits			

Status: Signed Off. (1 minutes)

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SYSTEM:OS - DIALOG OneSearch

File 155:MEDLINE(R) 1966-2003/Sep W2

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*File 155: Medline has been reloaded and accession numbers have changed. Please see HELP NEWS 155.

File 5:Biosis Previews(R) 1969-2003/Sep W2

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File 34:SciSearch(R) Cited Ref Sci 1990-2003/Sep W2

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File 35:Dissertation Abs Online 1861-2003/Aug

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File 48:SPORTDiscus 1962-2003/Sep

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File 65:Inside Conferences 1993-2003/Sep W3

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File 71:ELSEVIER BIOBASE 1994-2003/Sep W3

(c) 2003 Elsevier Science B.V.

File 73:EMBASE 1974-2003/Sep W2

(c) 2003 Elsevier Science B.V.

File 91:MANTIS(TM) 1880-2002/Dec

2003 (c) Action Potential

File 94:JICST-EPlus 1985-2003/Sep W3

(c)2003 Japan Science and Tech Corp(JST)

File 98:General Sci Abs/Full-Text 1984-2003/Aug

(c) 2003 The HW Wilson Co.

File 135:NewsRx Weekly Reports 1995-2003/Sep W2

(c) 2003 NewsRx

*File 135: New newsletters are now added. See Help News135 for the complete list of newsletters.

File 144:Pascal 1973-2003/Sep W2

(c) 2003 INIST/CNRS

File 149:TGG Health&Wellness DB(SM) 1976-2003/Sep W1

(c) 2003 The Gale Group

File 156:ToxFile 1965-2003/Sep W2

(c) format only 2003 The Dialog Corporation

*File 156: ToxFile has been reloaded. Accession numbers have changed. Please see HELP NEWS 156 for details.

File 159:Cancerlit 1975-2002/Oct

(c) format only 2002 Dialog Corporation

*File 159: Cancerlit ceases updating with immediate effect. Please see HELP NEWS.

File 162:Global Health 1983-2003/Aug

(c) 2003 CAB International

*File 162: Effective May 1, name changes from CAB Health to Global Health.

File 164:Allied & Complementary Medicine 1984-2003/Sep

(c) 2003 BLHCIS

File 172:EMBASE Alert 2003/Sep W3

(c) 2003 Elsevier Science B.V.

File 266:FEDRIP 2003/Jul

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File 369:New Scientist 1994-2003/Sep W2

(c) 2003 Reed Business Information Ltd.

File 370:Science 1996-1999/Jul W3

(c) 1999 AAAS

*File 370: This file is closed (no updates). Use File 47 for more current information.

File 399:CA SEARCH(R) 1967-2003/UD=13913

(c) 2003 American Chemical Society

*File 399: Use is subject to the terms of your user/customer agreement. Alert feature enhanced for multiple files, etc. See HELP ALERT.

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

(c) 1998 Inst for Sci Info

File 444:New England Journal of Med. 1985-2003/Sep W3

(c) 2003 Mass. Med. Soc.

File 467:ExtraMED(tm) 2000/Dec

(c) 2001 Informania Ltd.

*File 467: For information about updating status please see Help News467.

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S2	130153	ENCAPSUL?
S3	3196	UNENCAPSUL?
S4	37384	EPIDERMID?
S5	7249	TEICHOIC?
S6	17	(S2 OR S3) AND S4 AND S5
S7	6	S4/TI AND S3/TI
S8	6	S7 NOT S6
S9	46	S4/TI AND S5/TI
S10	40	S9 NOT S6 NOT S7 NOT S8

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10/9/1 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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09807101 21615486 PMID: 11747374

Teichoic acid enhances adhesion of Staphylococcus epidermidis to immobilized fibronectin.

Hussain M; Heilmann C; Peters G; Herrmann M

Institute of Medical Microbiology, University Hospital of Muenster, Muenster, Germany. muzaffa@uni-muenster.de

Microbial pathogenesis (England) Dec 2001, 31 (6) p261-70, ISSN 0882-4010 Journal Code: 8606191

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Adhesion is a prerequisite for coagulase-negative staphylococci to cause invasive disease and may be mediated by adhesive host molecules adsorbed on implanted polymers. In this study, we can confirm previous observations demonstrating binding of Staphylococcus epidermidis to fibronectin (FN) adsorbed polymer surfaces. So far, the nature of FN-recognizing adhesin(s) in S. epidermidis remains elusive. Since teichoic acids (TA) have been shown to exert binding functions for extracellular matrix molecules in several Gram-positive species, we have purified wall TA of S. epidermidis laboratory strains KH11 and RP62A, as well as clinical isolate AB9. Using a polymethylmethacrylate (PMMA) coverslip adhesion assay, a microtitre plate assay and a particle agglutination assay, we found that purified TA significantly enhanced adhesion of S. epidermidis KH11 and RP62A to FN coated surfaces. Enhanced adhesion was dose-dependent and saturable. Preincubation, either of microorganisms or of FN coated surfaces, with TA promoted adhesion, while adhesion to TA-adsorbed PMMA was comparably low. This observation may suggest a potential role of cell wall carbohydrates as bridging molecules between microorganisms and immobilized FN in early steps of S. epidermidis pathogenesis. Copyright 2001 Academic Press.

Tags: Comparative Study; Support, Non-U.S. Gov't

Descriptors: *Bacterial Adhesion--drug effects--DE; *Fibronectins--metabolism--ME; *Staphylococcus epidermidis--drug effects--DE; *Teichoic Acids--pharmacology--PD; Dose-Response Relationship, Drug; Polymethyl Methacrylate--metabolism--ME; Staphylococcus epidermidis--pathogenicity--PY; Staphylococcus epidermidis--physiology--PH

CAS Registry No.: 0 (Fibronectins); 0 (Teichoic Acids); 9011-14-7 (Polymethyl Methacrylate)

Record Date Created: 20011218

Record Date Completed: 20020227

10/9/2 (Item 2 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

(c) format only 2003 The Dialog Corp. All rts. reserv.

09301922 21039665 PMID: 11199222

Immunoreactivity of 80-kDa peptidoglycan and teichoic acid-like substance of slime producing *S. epidermidis* and specificity of their antibodies studied by an enzyme immunoassay.

Kolonitsiou F; Syrokou A; Karamanos N K; Anastassiou E D; Dimitracopoulos G

Department of Microbiology, School of Medicine, University of Patras, Greece.

Journal of pharmaceutical and biomedical analysis (England) Jan 2001,

24 (3) p429-36, ISSN 0731-7085 Journal Code: 8309336

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

S. epidermidis is considered an important cause of nosocomial bacteraemia in immunocompromized hosts as well as the commonest agent of sepsis in patients with prosthetic devices. Pathogenesis is attributed to adherence and growth on biomaterials facilitated by production of extracellular slime. The major macromolecules of slime are: a 20-kDa acidic polysaccharide (20-kDa PS) comprising the 60% of carbohydrate-containing slime macromolecules, a peptidoglycan with average molecular size of 80-kDa (30% of slime dry weight) and cell wall teichoic acid-like substance. In this study, antibodies to these macromolecules as well as crude slime were raised in rabbits and their immunological reactivity and specificity were studied by an enzyme immunoassay. All isolated macromolecules induced the production of specific antibodies. 20-kDa PS was less immunogenic than 80-kDa peptidoglycan and teichoic acid-like substance. However, 20-kDa PS was the most potent inhibitor of the reaction of slime with its homologous antibodies revealing that this polysaccharide is the major antigenic determinant of slime. All three antibodies specifically recognize ($p < 0.05$) and react with slime-producing *S. epidermidis* in comparison to other staphylococci species. Obtained results indicate that the 20-kDa PS may be distributed in the surface of the slime exposing most of its antigenic determinants to the immune system, whereas those of 80-kDa peptidoglycan and teichoic acid-like substance seem to be less accessible.

Tags: Animal

Descriptors: *Antibodies, Bacterial--immunology--IM; *Antibody Specificity; *Enzyme-Linked Immunosorbent Assay--methods--MT; *Peptidoglycan--immunology--IM; *Staphylococcus epidermidis--chemistry--CH; *Staphylococcus epidermidis--immunology--IM; *Teichoic Acids--immunology--IM; Rabbits

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Peptidoglycan); 0 (Teichoic Acids)

Record Date Created: 20010124

Record Date Completed: 20010322

10/9/3 (Item 3 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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08035218 94100947 PMID: 8275059

Peptidoglycan and teichoic acid from *Staphylococcus epidermidis* stimulate human monocytes to release tumour necrosis factor-alpha, interleukin-1 beta and interleukin-6.

Mattsson E; Verhage L; Rollof J; Fleer A; Verhoef J; van Dijk H

Eijkman-Winkler Institute of Medical and Clinical Microbiology, Utrecht University, The Netherlands.

FEMS immunology and medical microbiology (NETHERLANDS) Oct 1993, 7

(3) p281-7, ISSN 0928-8244 Journal Code: 9315554

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Cytokines play a major role in the pathophysiology of septic shock. In

this study, human peripheral blood monocytes were stimulated with peptidoglycan and teichoic acid, purified from a strain of Staphylococcus epidermidis. Polymyxin B (PM-B) was added to avoid the effects of possible contamination with endotoxin. Tumour necrosis factor-alpha (TNF), interleukin-1 beta (IL-1), and interleukin-6 (IL-6) in the supernates were measured by enzyme-linked immunosorbent assays. Peptidoglycan and teichoic acid induced TNF, IL-1, and IL-6 in a concentration-dependent manner. Teichoic acid was a weaker inducer than peptidoglycan, especially for IL-1. Lipopolysaccharide from an E. coli strain was used as a control, being 100-1000 times more potent than peptidoglycan and teichoic acid.

Tags: Human

Descriptors: *Interleukin-1--metabolism--ME; *Interleukin-6--metabolism--ME; *Monocytes--immunology--IM; *Peptidoglycan--pharmacology--PD; *Staphylococcus epidermidis--chemistry--CH; *Teichoic Acids--pharmacology--PD; *Tumor Necrosis Factor--metabolism--ME; Enzyme-Linked Immunosorbent Assay; Interleukin-1--biosynthesis--BI; Interleukin-6--biosynthesis--BI; Kinetics; Lipopolysaccharides--antagonists and inhibitors--AI; Lipopolysaccharides--pharmacology--PD; Peptidoglycan--chemistry--CH; Peptidoglycan--isolation and purification--IP; Polymyxin B--pharmacology--PD; Tumor Necrosis Factor--biosynthesis--BI

CAS Registry No.: 0 (Interleukin-1); 0 (Interleukin-6); 0 (Lipopolysaccharides); 0 (Peptidoglycan); 0 (Teichoic Acids); 0 (Tumor Necrosis Factor); 1404-26-8 (Polymyxin B)

Record Date Created: 19940204

Record Date Completed: 19940204

10/9/4 (Item 4 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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07639909 93095104 PMID: 1460655

Comparison of cell-wall teichoic acid with high-molecular-weight extracellular slime material from Staphylococcus epidermidis .

Hussain M; Hastings J G; White P J

Department of Molecular Biology and Biotechnology, The University, Sheffield.

Journal of medical microbiology (ENGLAND) Dec 1992, 37 (6) p368-75, ISSN 0022-2615 Journal Code: 0224131

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Extracellular high-mol.-wt material was separated from liquid cultures of Staphylococcus epidermidis. This material contained protein c. 20% w/w and polysaccharide c. 80% w/w. The polysaccharide was isolated by gel and ion-exchange chromatography and contained glycerol phosphate, glucose, N-acetylglucosamine, and D-alanine. Cell-wall teichoic acid was isolated from strain RP-62A and had a similar composition.

Tags: Comparative Study; Support, Non-U.S. Gov't

Descriptors: *Bacterial Capsules--chemistry--CH; *Polysaccharides, Bacterial--chemistry--CH; *Staphylococcus epidermidis--chemistry--CH; *Teichoic Acids--chemistry--CH; Acetylglucosamine--analysis--AN; Alanine--analysis--AN; Cell Fractionation; Cell Wall--chemistry--CH; Chromatography, Affinity; Chromatography, Ion Exchange; Chromatography, Paper; Glucose--analysis--AN; Glycerophosphates--analysis--AN; Lectins; Molecular Weight; Polysaccharides, Bacterial--isolation and purification--IP; Teichoic Acids--isolation and purification--IP

CAS Registry No.: 0 (Bacterial Capsules); 0 (Glycerophosphates); 0 (Lectins); 0 (Polysaccharides, Bacterial); 0 (Teichoic Acids); 50-99-7 (Glucose); 56-41-7 (Alanine); 7512-17-6 (Acetylglucosamine)

Record Date Created: 19930112

Record Date Completed: 19930112

10/9/5 (Item 5 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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04418095 84060202 PMID: 6642658

Detection of anti- teichoic acid immunoglobulin G antibodies in experimental Staphylococcus epidermidis endocarditis.

West T E; Cantey J R; Apicella M A; Burdash N M

Infection and immunity (UNITED STATES) Dec 1983, 42 (3) p1020-6,
ISSN 0019-9567 Journal Code: 0246127

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

An enzyme-linked immunosorbent assay (ELISA) was developed for the detection of rabbit immunoglobulin G (IgG) antibodies to purified cell wall teichoic acids from the Staphylococcus aureus Lafferty strain and three strains of coagulase-negative staphylococci. Significant immunological cross-reactivity occurred only between the teichoic acid of S. aureus and one coagulase-negative preparation. The ELISA was used to determine the serum IgG response to Staphylococcus epidermidis in a rabbit model of aortic valve endocarditis. Blood samples were drawn before inoculation and then every 5 days until death or sacrifice at 32 to 35 days postinoculation. Valve vegetations were culture positive at autopsy in 16 (59%) of the 27 catheterized rabbits. Antibody titers in this culture-positive group and the culture-negative group began to rise as early as day 6. Although both groups demonstrated an antibody response, the culture-positive group attained a significantly higher titer on days 26 and 31. Antibodies also rose in a control group of rabbits without a heart catheter but which were inoculated with bacteria. Again, the antibody titer was significantly less than that for the culture-positive group. This ELISA may be useful for the diagnosis of coagulase-negative staphylococcal infections in humans.

Tags: Animal; Comparative Study; Support, U.S. Gov't, Non-P.H.S.

Descriptors: *Antibodies, Bacterial--analysis--AN; *Endocarditis, Bacterial--immunology--IM; *Immunoglobulin G--analysis--AN; *Staphylococcal Infections--immunology--IM; *Staphylococcus epidermidis--immunology--IM; *Teichoic Acids--immunology--IM; Cell Wall--immunology--IM; Cross Reactions ; Enzyme-Linked Immunosorbent Assay; Rabbits

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Immunoglobulin G); 0 (Teichoic Acids)

Record Date Created: 19840107

Record Date Completed: 19840107

10/9/6 (Item 6 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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00547729 69079000 PMID: 5701689

The glycerol teichoic acid from walls of Staphylococcus epidermidis I2.

Archibald A R; Baddiley J; Shaukat G A

Biochemical journal (ENGLAND) Dec 1968, 110 (3) p583-8, ISSN 0264-6021 Journal Code: 2984726R

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Descriptors: *Cell Wall--analysis--AN; *Pentosephosphates--analysis--AN; *Polysaccharides, Bacterial--analysis--AN; *Staphylococcus--analysis--AN; Alanine--analysis--AN; Disaccharides--analysis--AN; Glucose--analysis--AN; Glycerol--analysis--AN; Glycerophosphates--analysis--AN; Membranes --analysis--AN; Phosphates--analysis--AN; Solubility; Trichloroacetic Acid

CAS Registry No.: 0 (Disaccharides); 0 (Glycerophosphates); 0 (Pentosephosphates); 0 (Phosphates); 0 (Polysaccharides, Bacterial); 50-99-7 (Glucose); 56-41-7 (Alanine); 56-81-5 (Glycerol); 76-03-9 (Trichloroacetic Acid)

Record Date Created: 19690217

Record Date Completed: 19690217

10/9/14 (Item 2 from file: 34)
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci
(c) 2003 Inst for Sci Info. All rts. reserv.

09325002 Genuine Article#: 392PE Number of References: 16

Title: Immunoreactivity of 80-kDa peptidoglycan and teichoic acid-like substance of slime producing S- epidermidis and specificity of their antibodies studied by an enzyme immunoassay

Author(s): Kolonitsiou F; Syrokou A; Karamanos NK; Anastassiou ED; Dimitracopoulos G (REPRINT)

Corporate Source: Univ Patras, Sch Med, Dept Microbiol, GR-26110 Patras//Greece/ (REPRINT); Univ Patras, Sch Med, Dept Microbiol, GR-26110 Patras//Greece/; Univ Patras, Dept Chem, GR-26110 Patras//Greece/

Journal: JOURNAL OF PHARMACEUTICAL AND BIOMEDICAL ANALYSIS, 2001, V24, N3 (JAN), P429-436

ISSN: 0731-7085 Publication date: 20010100

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND

Language: English Document Type: ARTICLE

Geographic Location: Greece

Journal Subject Category: CHEMISTRY, ANALYTICAL; PHARMACOLOGY & PHARMACY

Abstract: S. epidermidis is considered an important cause of nosocomial bacteraemia in immunocompromized hosts as well as the commonest agent of sepsis in patients with prosthetic devices. Pathogenesis is attributed to adherence and growth on biomaterials facilitated by production of extracellular slime. The major macromolecules of slime are: a 20-kDa acidic polysaccharide (20-kDa PS) comprising the 60% of carbohydrate-containing slime macromolecules, a peptidoglycan with average molecular size of 80-kDa (30% of slime dry weight) and cell wall teichoic acid-like substance. In this study, antibodies to these macromolecules as well as crude slime were raised in rabbits and their immunological reactivity and specificity were studied by an enzyme immunoassay. All isolated macromolecules induced the production of specific antibodies. 20-kDa PS was less immunogenic than 80-kDa peptidoglycan and teichoic acid-like substance. However, 20-kDa PS was the most potent inhibitor of the reaction of slime with its homologous antibodies revealing that this polysaccharide is the major antigenic determinant of slime. All three antibodies specifically recognize ($p < 0.05$) and react with slime-producing S. epidermidis in comparison to other staphylococci species. Obtained results indicate that the 20-kDa PS may be distributed in the surface of the slime exposing most of its antigenic determinants to the immune system, whereas those of 80-kDa peptidoglycan and teichoic acid-like substance seem to be less accessible. (C) 2001 Elsevier Science B.V. All rights reserved.

Descriptors--Author Keywords: Staphylococcus epidermidis ; slime ; antibodies ; enzyme immunoassay ; peptidoglycan ; polysaccharide

Identifiers--KeyWord Plus(R): COAGULASE-NEGATIVE STAPHYLOCOCCI; EXTRACELLULAR SLIME; POLYSACCHARIDE; PATHOGENS; SURFACES; RABBITS; AGENTS; LAYER

Cited References:

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?t s10/3,kwic/35-36 39

0183946 015897
DRUG NAME: **BSYX A110**
RECORD REVISION DATE: 20021004
SYNONYMS: BSYX-A110; HU 96110; HU96-110; Staphylococcal
 infections research programme - Applied Molecular
 Evolution/Biosynexus
WHO ATC CODE: J01X-X - Other antibacterials
EPHMRA ATC CODE: J8X - All Other Anti-Infectives
MECHANISM OF ACTION: Undefined mechanism

ORIGINATOR COMPANY: Applied Molecular Evolution (USA); Biosynexus (USA)
PARENT COMPANY: Applied Molecular Evolution; Biosynexus
LICENSEE: GlaxoSmithKline

HIGHEST PHASE: Phase I

DEVELOPMENT STATUS: Phase I, USA, Staphylococcal infections

TEXT

Introduction:

Applied Molecular Evolution entered into a collaboration in December 2000 with the US biotechnology company Biosynexus Inc., to develop chimeric anti-lipoteichoic acid (LTA) antibody, BSYX A110 (anti-staphylococcal monoclonal antibody - Biosynexus/Applied Molecular Evolution, BSYX-A110, HU96-110, HU 96110), for the prevention of bacterial infections caused by Staphylococcus spp. Biosynexus combined their antibacterial antibodies with the biotherapeutic optimisation capabilities of Applied Molecular Evolution to develop a superior therapeutic compound, and successfully optimised BSYX A110 in 2001.

Data from independent preclinical studies have indicated that BSYX A110 provides protection against Staphylococcus epidermidis and S. aureus in clinically relevant animal models. An open-label, phase I study in 8 healthy adult volunteers has been completed and Biosynexus has stated that results from this study have met safety and tolerability targets, and have demonstrated favourable pharmacodynamic and pharmacokinetic parameters. Currently, studies in premature infants for the prevention of staphylococcal infections are currently underway at the Baylor College of Medicine (Houston, Texas, US).

BSYX A110 has been granted orphan drug status by the US FDA, and provides 7 years of market exclusivity upon license approval.

Agreements: under the terms of the agreement with BioSynexus, Applied Molecular Evolution will receive research and development funding, potential additional payments if certain milestones are achieved, and royalties on any product sales.

In October 2002, GlaxoSmithKline Biologicals (the vaccine research, development and production centre of GlaxoSmithKline) and Biosynexus entered a collaborative agreement to develop and commercialise staphylococcal antibodies (including BSYX A110) and vaccines for the prevention and treatment of staphylococcal infections. GlaxoSmithKline Biologicals will market the product outside the US and Biosynexus will receive royalties on future sales. In addition, Biosynexus will also receive access fee payments, equity investments and performance-based milestone payments from GlaxoSmithKline Biologicals/1/.

PHARMACOLOGY OVERVIEW:

Antimicrobial activity:
Dose-related trends in serum anti-staphylococcal killing activity observed in healthy volunteers
Pharmacodynamics:
Provides protection against Staphylococcus epidermidis and S. aureus
Mechanism of action:
Undefined mechanism
Activity versus parent drug: unspecified parent

CLINICAL OVERVIEW:

Drug Interactions:
Unknown.

...mg/ml. Volunteers were monitored for 28 days. Pharmacokinetics were

assessed by anti- lipoteichoic acid (**anti - LTA**) antibody levels, which
were found to be dose-related with peak levels of 264 +- 54...
?logoff hold

03067782 JICST ACCESSION NUMBER: 95A0923991 FILE SEGMENT: JICST-E
Serum anti- lipoteichoic acid antibody titers in children with recurrent tonsillitis.

YOKOYAMA YUJI (1); HARABUCHI YASUAKI (1); TAKADA RYUTA (1); KATAURA
AKIKATSU (1)

(1) Sapporo Med. Coll.

Men'eki Arerugi(Journal of Japan Society of Immunology & Allergology in
Otolaryngology), 1995, VOL.13,NO.2, PAGE.50-51, FIG.4

JOURNAL NUMBER: L0926AAU ISSN NO: 0913-0691

UNIVERSAL DECIMAL CLASSIFICATION: 616.211/.218

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

DESCRIPTORS: Streptococcus pyogenes; Staphylococcus aureus; tonsillitis;
antibody titer; immunoglobulin G; child; human(primates)

BROADER DESCRIPTORS: Streptococcus; Streptococcaceae; bacterium;
microorganism; Staphylococcus; Micrococcaceae; pharyngeal disease;
stomatognathic disease; disease; otorhinolaryngologic disease;
inflammation; lymphatic disease; immunoglobulin; globulin; protein;
antibody; glycoprotein; animal protein; growth stage

CLASSIFICATION CODE(S): GQ03000X

*Cited
&
Applied
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Reference*

03967466

EMBASE No: 1989136462

Antibodies to staphylococcal peptidoglycan and its peptide epitopes, teichoic acid, and lipoteichoic acid in sera from blood donors and patients with staphylococcal infections

Wergeland H.I.; Haaheim L.R.; Natas O.B.; Wesenberg F.; Oeding P.

Department of Microbiology and Immunology, The Gade Institute, University of Bergen, Bergen Norway

Journal of Clinical Microbiology (J. CLIN. MICROBIOL.) (United States) 1989, 27/6 (1286-1291)

CODEN: JCMID ISSN: 0095-1137

DOCUMENT TYPE: Journal

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Antibodies to the staphylococcal antigens peptidoglycan, beta-ribitol teichoic acid, and lipoteichoic acid, as well as to the peptidoglycan epitopes L-Lys-D-Ala-D-Ala, L-Lys-D-Ala, and pentaglycine, were found over a wide range of concentrations in sera from both blood donors and patients with verified or suspected staphylococcal infections. The patient group was heterogeneous with regard to both age and type of staphylococcal infections, being representative for sera sent to our laboratory. In single-antigen assays antibodies to pentaglycine had the highest predictive positive value (67%), although only 32% of the patients had elevated levels of such antibodies. Combinations of test antigens could yield positive predictive values as high as 100%, but then the fraction of positive sera was low. Indeed, the fraction of patient sera which was positive in multiple-antigen tests never exceeded 61%. The clinical usefulness of these seroassays for identifying *Staphylococcus aureus* as a causative agent was limited, owing to the considerable overlap in the range of antibody concentrations between patient and blood donor sera.

05369258 87099457 PMID: 3467668

Effect of monoclonal antibodies against lipoteichoic acid from the oral bacterium Streptococcus mutans on its adhesion and plaque-accumulation in vitro.

Stashenko P; Peros W J; Gibbons R J; Dearborn S M
Archives of oral biology (ENGLAND) 1986, 31 (7) p455-61, ISSN
0003-9969 Journal Code: 0116711
Contract/Grant No.: DE-02847; DE; NIDCR; DE-05747; DE; NIDCR
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: DENTAL; INDEX MEDICUS

Five monoclonal antibodies directed against Streptococcus mutans strain JBP lipoteichoic acid (LTA) were characterized. They were all similarly reactive with the immunizing LTA-containing extract, with intact Strep. mutans JBP cells and with LTA purified from Lactobacillus casei. Immobilized anti-LTA antibodies removes LTA from LTA-containing extracts. The binding of antibodies to LTA was inhibited by the aqueous extract but not by the organic extract of de-acylated LTA, indicating reactivity with the polyglycerol-phosphate portion of the molecule. Antibodies were reactive with all serotypes of Strep. mutans, as well as with strains of Streptococcus salivarius, Streptococcus sanguis and L. casei, but not with LTA-negative species Streptococcus mitis or Actinomyces viscosus. Anti-LTA antibodies at doses of 0.3 or 3.0 micrograms/ml, had no effect on the adherence of Strep. mutans JBP to experimental salivary pellicles formed on hydroxyapatite, but enhanced adherence 150-300 per cent at 30 micrograms/ml. There was no effect of anti-LTA antibodies in a chemostat model which measured sucrose-dependent plaque accumulation by Strep. mutans. The results argue against a major role for LTA in Strep. mutans adherence or plaque accumulation in vitro.

Tags: Support, U.S. Gov't, P.H.S.

Descriptors: *Antibodies, Monoclonal--physiology--PH; *Phosphatidic Acids --immunology--IM; *Streptococcus mutans--immunology--IM; *Teichoic Acids --immunology--IM; Adhesiveness; Antibodies, Bacterial--physiology--PH; Dental Plaque--microbiology--MI; Phosphatidic Acids--pharmacology--PD; Streptococcus mutans--physiology--PH; Teichoic Acids--pharmacology--PD

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Antibodies, Monoclonal); 0 (Phosphatidic Acids); 0 (Teichoic Acids); 56411-57-5 (lipoteichoic acid)